May 5, 1962
Vol. 162 — No. 18

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

Telephone industry faces big challenge in supplying facilities to provide Educational Television (ETV) to schools and colleges. Every telephone company should be acquainted with the program in order to serve its local educational institutions. Photo shows children in Cortland, N. Y. classroom watching television lesson. See page 20 for story on ETV.

Circulation This Issue
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MANAGEMENT · PLANT · TRAFFIC · COMMERCIAL · LEGAL · ACCOUNTING

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"We have no operators since converting 511 stations to AE dial"

reports Walter Speck *MANAGER, GORMAN TELEPHONE COMPANY*

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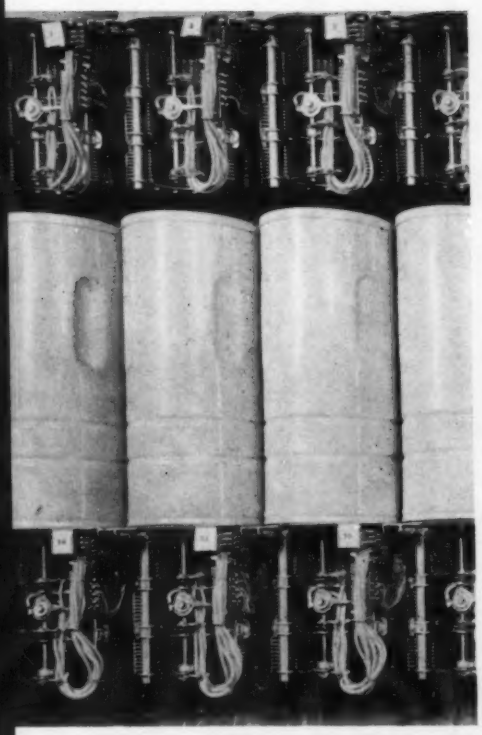

"THERE'S just the maintenance man and myself to run the exchange now. But that AE dial equipment looks like it won't need us either." The speaker was Walter Speck, manager, Gorman Telephone Company. Thanks to his efforts, Gorman, Texas, often referred to as the "peanut capital of the world," now has dial service.

Walter Speck purchased Gorman Telephone Company in 1953. Since then, he has been successful in meeting the growing needs of this central Texas community. But Walter Speck was plagued by one problem. As he put it: "One of the big problems with a manual exchange is getting and keeping reliable operators. Operating a switchboard requires dexterity, both physical and mental. Experienced operators are not readily available, so you must hire recruits. Then, after you've spent time and money in training them, they up and leave."

Adjacent towns had converted to dial. This didn't bother the people of Gorman. It *did* bother Walter Speck's strong sense of public service. "It's good public relations to anticipate your customers' wants —to give them a new service before they ask for it," states Mr. Speck. "It's good business, too."

Replacement parts was a potential problem. "We didn't need to replace any parts at present, but we would in time," says Walter Speck. When that time came he knew parts would be unobtainable.

These problems set Walter Speck to thinking about dial conversion for Gorman. To orient himself on the types of dial equipment available, Mr. Speck met with representatives of the various manufacturers. One was L. C. Wiley, AE representative.

"Carl Wiley and I had several discussions on dial conversion problems," reports Mr. Speck. The gist of their discussions was this: AE dial would meet Gorman's future needs, whatever they might be. "It's simple arithmetic," Carl told Walter Speck. "You keep adding to your basic equipment as new needs arise. There are no limits to expansion, so your investment is secure." Walter Speck decided: Gorman would go AE dial.

Shortly after his decision, Walter Speck met with Carl Wiley and George Summerscales, AE district manager. The purpose: negotiate an $85,000 loan under the AE Finance Plan. Comments Mr. Speck: "Dial conversion is the biggest capital expenditure a telephone man makes. You must have unqualified confidence in the security of your investment. Knowing the proven record of AE dial equipment in the field gave me that confidence."

Gorman's dial conversion included a new building. This is one of the more costly items in telephony. It demands expert planning. Future growth and future technical developments must be considered. Lighting, air conditioning and aisle space are important factors. External appearance must be adapted to the surroundings. It was no time for do-it-yourself architecture. AE specialists drew up the floor plans—then brought in a professional architect to design Gorman's new building.

AE central office equipment was placed in service by AE installation technicians. They are trained in the techniques of construction, wiring, cabling and testing. A plant engineer was called in to survey Gorman's outside plant layout. He recommended a complete replacement of outside plant and new "drops."

Boosting rates was no problem. Walter Speck talked about the advantages of dial service in newspapers, at club meetings and in personal conversations. "Folks were willing to pay a little more to get a lot more," observed Mr. Speck. And his salesmanship continued. Three 10-A1 business communications systems were sold.

In October, 1960, Gorman Telephone Company converted to AE dial. Today, it serves 511 stations —without operators—over a 25 mile area. Toll calls are placed through a nearby exchange. Business was never better. And the long range forecast: continuing prosperity.

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FLASHES AND PLUGS

THE "BOX" BECAME A FAST TALKER. Centrex may be the latest thing in telephone magic in 1962, but back in 1878, reports Curt Haseltine, staff writer for the Detroit (Mich.) "Free Press", Alexander Graham Bell's magic boxes, or "speaking telephones", were wonders too.

A Morse code telegrapher, William H. Jackson, set up a demonstration of the magic boxes, a pair of them, measuring six by 16 inches, connected by wires, in a freight shed of the Michigan Central Railroad. The "Free Press" publisher of that day was so amazed that he gave Jackson permission to set up a line from the newspaper office to the telegraph company.

Hazeltine, reviewing the paper's telephonic history—from the days when nobody bothered with numbers, but rang the operator, a boy, and asked to be connected with the party he named . . . through the arrival of a directory in the days of young women operators . . . the gradual introduction of more digits in the telephone numbers, and extensions . . . to Centrex, speeding service by making every extension a direct line, says it's certainly a far cry from those two magic boxes and a couple of hundred feet of wire. We agree.

•

BOOZER'S NO SNOOZER. We wonder if the mystery of the "phantom boozer" of Little Missenden, England, was ever solved. About a year ago, the police were searching for a man who was using an outdoor telephone booth as a retreat for his favorite libations.

Every day for nearly a year, authorities had found an empty bottle in that telephone booth, but the celebrant was not there.

The police said, "Nobody has ever seen him, but we're convinced the bottles are left by the same man."

The British sleuths had come to the conclusion that the booth drinker was a "tired businessman" who drove up to the booth for a final nip before going home. They admitted they didn't understand how he ever made it home.

•

'S AMAZING SMITH SMASHUP. In a UPI release from Cedar Rapids, Ia., comes the news that Robert M. Smith Jr. recently lost control of his car, and created an astonishing amount of damage.

The car ran through two fences, clipped off several telephone poles, knocked down a mail box, and smashed into railroad tracks.

The accident resulted in knocking out telephone service to 50 homes in the area, and temporarily halted Rock Island Railroad trains because of track damage.

Unscathed in all this was Mr. Smith.

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Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

SINCE 1901

May 5, 1962

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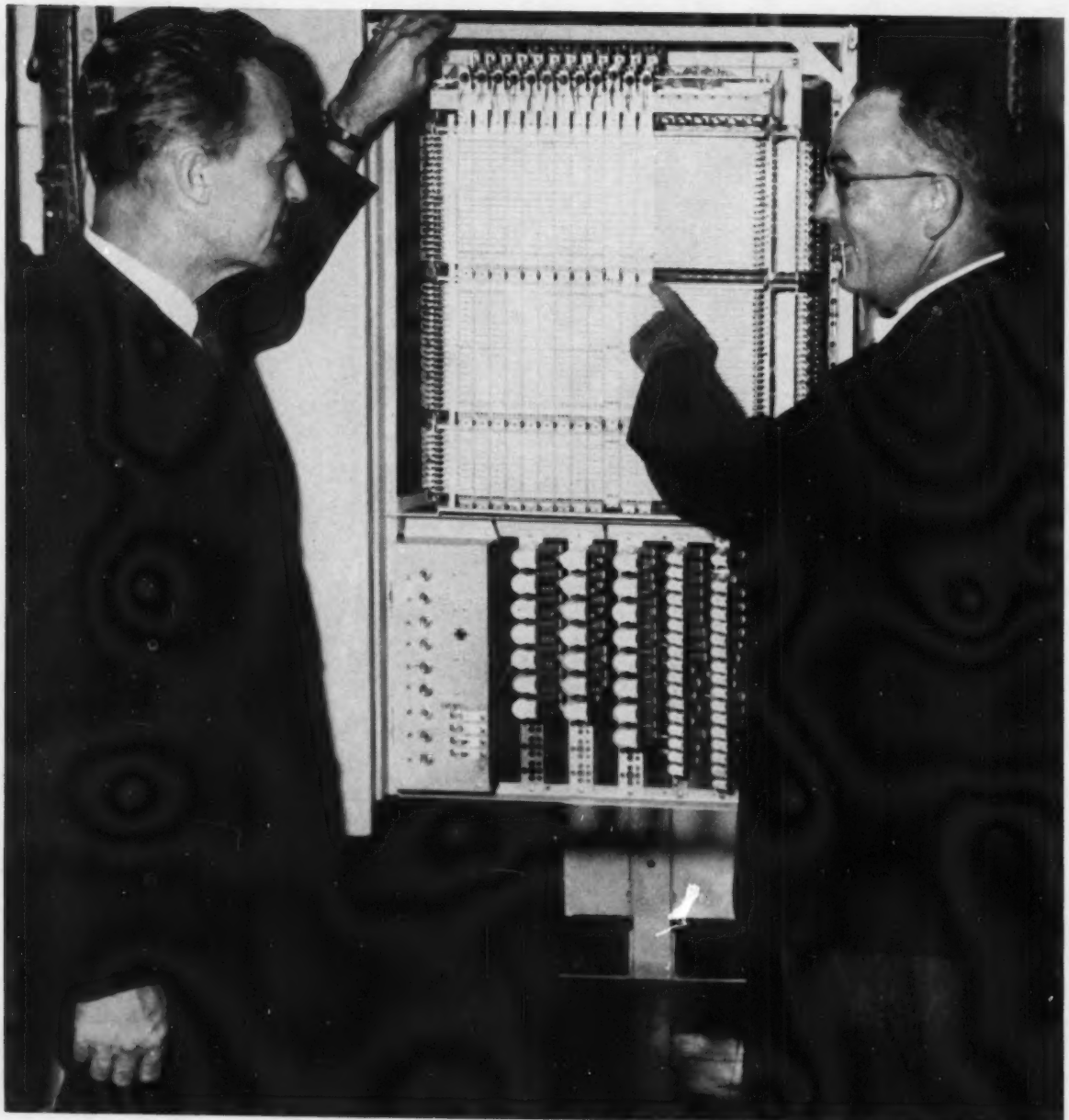

Exchange Unit for Leich Line Concentrator. Shown are (left to right) J. H. Shultz, General Manager and Arthur F. Brubaker, Plant Superintendent, Rochester (Ind.) Telephone Co., Inc.

$12,000 WITH THE LEICH LINE CONCENTRATOR"

REPORTS MR. ARTHUR F. BRUBAKER, PLANT SUPERINTENDENT
ROCHESTER TELEPHONE COMPANY, INC., ROCHESTER, INDIANA

"By installing the Leich Line Concentrator instead of cable, we saved $12,000!" reports Mr. Arthur F. Brubaker. "We were able to add lines for new subscribers and reduce the number of subscribers per line at a cost much lower than cable relief."

The cost-cutting story: Mr. Brubaker needed more circuits in an area northeast of Rochester, Indiana. Since 24 pair of the existing 26 pair cable were in use, he would normally have had to add another 26 pair cable at a cost of about $17,000.

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It used 15 pairs (12 traffic trunks and 3 control trunks) of the existing 26 pair cable to furnish 49 lines—28 in service and 21 available for future growth. Four of the remaining original eleven pairs were used as high usage lines in the area, leaving seven spare pairs. Mr. Brubaker increased his original 26 lines to a total of 60—for a net gain of 34 lines!

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IN THE NATION'S CAPITAL

BY LAWRENCE J. HOGAN, WASHINGTON EDITOR
and President, Larry Hogan Associates,
Public Relations Firm.

Consulting firm completes long-awaited appraisal of the organization and administration of the FCC . . . . Many Washington observers wonder if $60,000 study and report was worth waiting for.

THE LONG-AWAITED report of the Booz, Allen & Hamilton consulting firm on the operations of the Federal Communications Commission has finally been made public. Many Washington observers are wondering if it was worth waiting for.

The study which cost the taxpayers about $60,000 has been reported in two weighty tomes consisting of 600 pages. FCC has about 1,400 employes and works with an annual budget of 12.5 million dollars. Booz, Allen & Hamilton thinks the commission needs more money, better equipment and more and better employes.

The purpose of the survey and report was "to appraise the organization and administration of the FCC and to develop recommendations which will enable it to achieve the greatest possible degree of efficiency and maximum economy in the performance of these weighty responsibilities."

Common Carrrier Division

The research firm concluded, after its study, that "the FCC with its present management system, organization and manpower is not equipped fully to realize its statutory objectives." Wiping the blood off the blade, the report added, "By no means does this imply that the commission is ineffective in its essential functioning. On the contrary, with its present administrative equipment the FCC is a viable agency doing reasonably well under many handicaps."

The report said the commission is "not reaching the depth or scope of regulatory coverage required," particularly in the common carrier field. The consultants said the FCC not only needs more money to carry out its duties but it also needs to improve its management. "The mere allocation of additional resources . . . without strengthening its facilities for internal coordination and management, would not cure its present administrative weaknesses," the report said.

Some of the firm's findings were as follows:

- Management of the total workload of the agency is informal, loose and too dependent upon voluntary consent arrangements.
- Bureaus and offices tend to operate autonomously and internal management is not tight enough.
- The seven-member commission often does not provide clear policy information or instructions to the staff.
- The commissioners spend too much time on operational detail and individual routine cases which do not involve policy or precedent.
- Productivity on the part of employes is marginal and morale would be improved by more explicit performance standards and improved supervision.
- Many FCC personnel, particularly in key leadership jobs, need to be upgraded in terms of stature, competence and capacity.
- The FCC tends to respond to emerging issues rather than anticipating them.

The report made a number of recommendations for dealing with these problems aimed at strengthening management, improving processes and expanding enforcement programs. In furtherance of these objectives, the report's recommendations include the following:

- Making the FCC chairman the "chief executive officer" in fact as well as in name.
- Creation of a new position of executive director as the "executive arm" of the chairman. (Many people in Congress don't want to give the chairman any new powers. It will be recalled that the reorganization proposal which President Kennedy sent to Congress last year also called for new powers for the chairman and an office of executive director, but Congress, after an intensive anti-Minow lobbying effort by the broadcasters, trimmed the increased authority from the bill which was passed.)
- Bureau and office internal organization should be "rationalized" (whatever that means) by a number of consolidations, transfers and other adjustments.
- More authority should be delegated to staff people.
- "The most effective possible program should be developed for recruiting and training personnel." (The report added at this point very cogently: "The nature of the job to be done demands only the best.")
- Enforcement should be increased. Human and material sources and additional sources should be organized to permit more effective regulation and enforcement up to "that carefully determined level dictated by the public interest."
- The capacity of the three operating bureaus concerned with major industry groups should be strengthened to undertake economic and social analysis and to pursue lines of inquiry and develop recommendations on major matters of policy.

Calls For Revamping

Summarizing its recommendations, the report says the FCC "must mount a major effort directed to improving its practices, methods and operating machinery, if it is to keep on top of its regulatory obligations. A more innovative spirit and greater flexibili-

ty in effecting adjustment of long-established systems are called for."

The report calls for considerable revamping of the mechanism for regulating the telephone industry. Although the report listed 21 rate reductions for which the FCC negotiated with AT&T since 1935, Booz-Allen said, "The commission has established no firm criteria governing such rates of return and does not demonstrate that the reductions negotiated actually bring the over-all rate of return down to reasonable limits. The activity merits far greater emphasis if the public interest is to be properly served."

The research firm observed that FCC's Common Carrier Bureau was never "organized, staffed or equipped to be entirely successful" in regulating telephone and telegraph companies. Because of insufficient money and staff, the report said, the bureau's regulatory activities are "performed in a superficial manner or are performed for a small fraction of the total area of responsibility."

Cites Rate Reductions

In an effort to support its allegations, the probers cited the following:

- Bell System purchases in 1960 from its subsidiary, Western Electric Co., totaled 1.8 billion dollars, "which amount becomes part of the rate base on which the Bell companies expect a return." But apart from a review of periodic reports, "no examination of the books of Western Electric or other leading telephone equipment manufacturers has been undertaken to determine the reasonableness of charges to the Bell System."
- Since January, 1956, accounting compliance reviews have been accomplished for only 14 of 24 Bell System companies and nine of 40 Independent telephone companies (under FCC jurisdiction).
- The method of timing and billing long distance telephone calls never has been adequately examined.
- Depreciation rates—"a major factor in an industry with an increasingly faster rate of obsolescence for much of its equipment"—must be prescribed by the FCC. "Rates of Bell System companies can be reviewed every three or four years at best . . . No depreciation rates have been prescribed for the Independent companies subject to the FCC."

Would Consolidate Divisions

To correct what it considered shortcomings, Booz, Allen & Hamilton recommended consolidating some divisions and reorganizing others, in addition to the increased funds, staff and upgrading mentioned above.

The Common Carrier Bureau would be throughly revamped. The Telegraph Division would be consolidated with the Telephone Division to create a Domestic Telecommunications Division for regulating all domestic telecommunications common carriers. "This arrangement," the report said, "will permit rates, service and facility issues to be examined for their impact on a total system, rather than solely from the point of view of particular types of common carriers.

A Rates and Revenue Requirements Branch would be established to combine the two branches in the present Telephone and Telegraph Divisions. A similar combination of sections of these divisions would form a new Services and Facilities Branch. The Accounting, Compliance and Depreciation Rates Branches of the Telephone Division would be transferred to a new Office of Accounting Standards and Compliance, which would serve the entire bureau.

Raise Field Level

The Accounting Standards and Compliance Division would be responsible for establishing standards and systems as well as for incorporating the activities now conducted with the office of the chief of the present Office of Accounting Systems and its Accounting Systems Branch.

The report said, "Field compliance activities should be raised to a more effective level. Thus, the responsibilities of the Field Compliance Branch should be broadened to cover the compliance activities of the three operating divisions."

Because the researchers concluded that, "The International Division is not in a position to perform adequately the regulatory responsibilities imposed on it by statute," the report recommended that additions to the professional staff be made and that the division be renamed the International Telecommunications Division.

The consulting firm concluded that the FCC Common Carrier Bureau would be the logical subdivision to regulate activities in the field of space satellite communications, but a Space Communications Policy Planning Group should be created to guide activities within FCC's area of responsibility in this field. It was suggested that the group have as its chairman the chief or assistant chief of the Common Carrier Bureau and include within its membership the chiefs of the Domestic Telecommunications and International Telecommunications Divisions, as well as representatives from the Office of Chief Engineer and Office of General Counsel.

Working Group Also

It was also recommended that a Space Communications Working Group be created to work with and under the chairman of the Space Communications Policy Planning Group. This "working group" should have, the report said, a Technical Standards Unit responsible for public service standards, facilities, equipment and operating standards, frequency allocation and assignments, interference problems and related responsibilities; a Rates and Revenue Requirements Unit to determine the requirements of the carriers, the needs of the public, lawful and reasonable rate levels and structures or alternate levels and structures, depreciation rates and allowable costs, and related matters, and a Legal and Treaty Unit to handle legal questions involving rule-making, determination of the U. S. position in treaty matters, rate-making proceedings, and the conduct of general policy studies in conjunction with the other units.

Plowing through the report, one gets the impression that the research firm favors regulation for the sake of regulation. In citing the lack of FCC rate cases in the telephone industry, the probers seem to have completely ignored the possibility that perhaps no more regulatory activity is necessary. They overlook, too, the regulatory activities of local public utility commissions which possibly obviate the nec-

Hogan Appointed by Maryland Candidate

Frank Small Jr., Republican candidate for governor of Maryland, has announced the appointment of Larry Hogan Associates to handle public relations during his campaign.

The firm with offices in Washington and Hyattsville, Md. is headed by Lawrence J. Hogan, a former FBI Agent, who will personally supervise the account. Mr. Hogan is also Washington editor of TELEPHONY.

Mr. Small, a businessman, formerly served Maryland as a U.S. congressman, Prince Georges County (Maryland) Commissioner, Maryland Commissioner of Motor Vehicles, delegate to the state legislature and chairman of the State Racing Commission.

He has been endorsed by the Republican organization as the party's choice for governor.

essity for more FCC activity in this field. The report notes that a number of interstate telephone long distance rate decreases have been effected through negotiation and, if the public interest is protected voluntarily without putting the government to the expense of adjudicating a rate case, this seems to be an advantage rather than a disadvantage.

Contest Between Bureaus?

Because technological advancements in interstate telephony have been far ahead of those on the local level, it is conceivable that interstate rates could become lower than intrastate rates. This would be difficult for the public to comprehend and might burden the smaller companies with some serious problems. It costs more to deliver a carload of oranges from a New York terminal to the intended recipient than it costs to ship the oranges all the way from Florida. The analogy applies to a telephone call.

Our telephone industry is the best in the world and the public, over the years, has been given outstanding service at relatively low rates. The Booz, Allen & Hamilton report seems to feel this is all well and good, but FCC hasn't been doing enough regulating. We can see this resulting in a contest between bureaus to see who can do the most regulating. This would be like a chief of police giving his patrolmen an ultimatum to issue a certain quota of traffic citations even though all the citizens in the town are meticulously law-abiding.

Some of the things which Booz, Allen and Hamilton discovered during its $60,000 survey could have been reported by a casual Washington tourist. Every agency needs better people, better training, more efficiency, etc., etc. Naturally, a firm which is given $60,000 by the U. S. Budget Bureau to study an agency is not going to report that "Everything is just fine at FCC; no changes are recommended." So they had to come up with something to say in their 600-page report. In addition to many restatements of the obvious, there are some recommendations which seem totally unnecessary.

It is also questionable as to how effective the bureaucratic game of "musical chairs" outlined by the research firm really would be. Newton Minow, chairman of the FCC is a level-headed administrator and, even though the report would give him a stronger hand on the commission's helm we predict he won't be very happy with the whole package of recommendations.

The administration should take a long, hard look at the report before splashing the FCC "baby" into the Potomac with the bath water.

REA Approves Four Loans

The Rural Electrification Administration has announced approval of loans totaling $1,267,000 to telephone systems in Alabama, Nebraska, Tennessee, and Texas, as follows:

Cambridge (Neb.) Telephone Co.; $612,000; Apr. 13.

With the help of these funds, the company will be enabled to improve service for 885 subscribers and furnish initial service to 74 subscribers. The existing system provides common battery and magneto service to 648 subscribers.

Cambridge proposes to acquire the Bartley Telephone Co., now furnishing magneto service to 237 subscribers, and to improve and furnish new service for both systems.

New dial central offices are planned at Bartley and Cambridge; in addition, the present business office in Cambridge will be remodeled to service the enlarged system.

A. A. Mousel is president and Harlan Stewart is manager of the Cambridge Telephone Co.

•

Crockett Telephone Co., Friendship, Tenn.; $148,000; Apr. 19.

With these loan funds, Crockett will be assisted to furnish initial service for 286 subscribers, and to complete the authorized system. Facilities required to provide the additional service include expanded dial equipment in the three central offices of the company.

REA loans to this borrower will help make possible new and improved service to 2,300 subscribers. The three exchanges of the system now furnish dial service to approximately 1,830 subscribers.

•

The Rocksprings and Nueces Canyon Telephone Co., Rocksprings, Tex.; $316,000; Apr. 19.

The company plans to use this loan to furnish initial service to 187 subscribers and to improve service for 117 subscribers. The company has recently acquired the D'Hanis Telephone Co. now providing magneto service to the subscribers.

A new dial central office is planned which will replace the D'Hanis present facilities. Also, a portion of the loan will be used to complete the authorized system.

Loans to this company will help enable it to bring new and improved service to 1,203 subscribers. Four of the proposed exchanges are now furnishing dial service to approximately 800 subscribers.

•

Union Springs (Ala.) Telephone Co., $191,000 Apr. 20.

Union Springs plans to use this loan to furnish initial service for 336 subscribers and to improve service for 88. The company has acquired the East Alabama Telephone Co. at Midway, Ala., which now provides dial service to the subscribers. Union Springs company will be reimbursed for a portion of this acquistion.

The borrower also plans to expand the dial facilities of the Midway central office.

Loans to Union Springs will help make possible new and improved service for 1,562 subscribers. The Union Springs exchange now furnishes dial service to approximately 1,175 subscribers.

White House-Kremlin Line

A top priority telephone line linking the White House in Washington to the Kremlin in Moscow was included in the U. S. disarmament plan presented to the Geneva conference on Apr. 18.

The direct Khrushchev-to-Kennedy line would, the experts believe, minimize the risk of war breaking out by accident, miscalculation, surprise or a breakdown in communications.

The American proposal stated: "Specified parties to the treaty would agree to the establishment of rapid and reliable communications among their heads of government and with the Secretary General of the United Nations."

Presumably with such a line between the White House and the Kremlin, President Kennedy could quickly determine whether a Soviet missile hitting our territory was an "accident" or on purpose.

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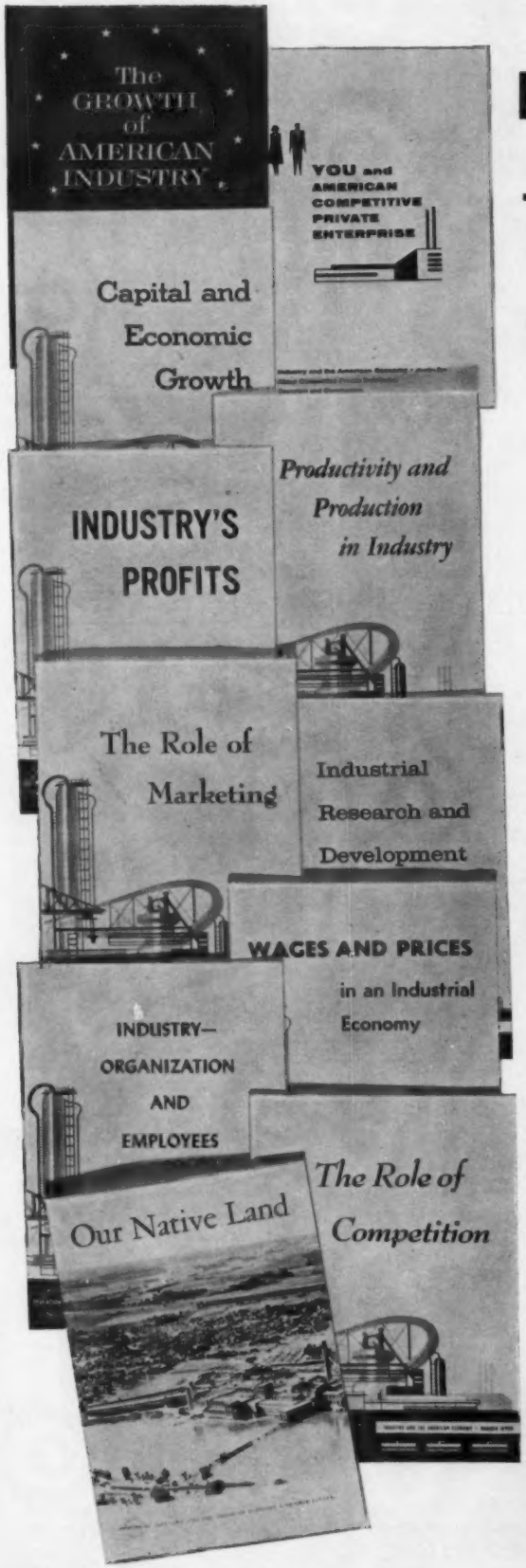

The GROWTH of AMERICAN INDUSTRY
YOU and AMERICAN COMPETITIVE PRIVATE ENTERPRISE
Capital and Economic Growth
INDUSTRY'S PROFITS
Productivity and Production in Industry
The Role of Marketing
Industrial Research and Development
WAGES AND PRICES in an Industrial Economy
INDUSTRY— ORGANIZATION AND EMPLOYEES
Our Native Land
The Role of Competition

The NAM's "Industry and the American Economy" series of economic teaching aids (11 booklets), furnished to teachers in classroom quantities at no charge on request.

NAM Offers Materials To Fill Gap in Teaching Economics

By DIANNE DRUCKER*

A WELL-KNOWN financial writer once said: "The American economy is the eighth wonder of the world; the ninth wonder is the economic ignorance of the American people."

The National Association of Manufacturers (NAM) has found through continuing research that this gap in the public's economic understanding does exist and that very little has been done to fill it at both high school and college levels. The students of today, industry's employes of tomorrow, will also be the voters of tomorrow. They will determine the government climate in which industry will have to operate.

NAM is trying to remedy this lack of understanding by inaugurating an Economic Education Program to help educate students and employes to an intelligent appreciation of the benefits they enjoy under, and the workings of, our free enterprise system.

Lack of Knowledge Evidenced

This need for knowledge cannot be ignored. All around us NAM has found documentary evidence of the public's economic naivety.

Walter Barlow, president of Opinion Research Corp., showed a committee of the NAM's board of directors the results of a continuing survey which indicate an inching trend year by year toward a belief that government should control the profits of large corporations.

The researchers found that more than half of the American people hold, to a greater or lesser degree, belief in the following fallacies:

*Miss Drucker is a former Associate Editor of TELEPHONY.

(1) Profit results from exploitation.
(2) The profit system is a wicked institution designed to grind down the poor.
(3) Profit-making is a system of greed and avarice.
(4) Profit-makers are expropriators of money earned by workers.
(5) Thus, there should be strict government regulation and strict confiscatory taxation.

Student Poll

A poll of high school seniors, taken by a research organization, revealed among other misconceptions, the following:

62 per cent believed a worker should not produce all he can.

56 per cent were for close government control of business.

62 per cent said the government has the responsibility to provide jobs.

53 per cent (and this is of great importance to the telephone industry) voted for government ownership of one or more industries; i.e. banks, railroads, electric power, steel, oil, automobile.

Others Stress Need for Education

Other voices add to the plea for economic understanding on the part of the American people.

The Committee for Economic Development, a privately supported research organization of business men, said that measures to reduce economic illiteracy in the United States must become an urgent national priority.

It recommended that high school students be given at least a one-semester course primarily devoted to economics and that all states make economics mandatory for teacher certification in social science.

Few Take Economics Courses

Dr. Ernest L. Wilkinson, president of Brigham Young University, said, in a speech reprinted in the Sept. 23, 1961 issue of TELEPHONY: "Probably fewer than one out of every 20 of all high school students takes even one course in economics and only about one-fifth of all college students do.

"Fewer than one-tenth of all elementary school intructors and less than one-fourth of all secondary school teachers (majoring in social sciences) take even one course in economics while at college.

". . It is estimated that nine out of every 10 teachers' colleges fail to have a single economist on their faculties. Over three-fourths of our states do not demand a course in economics of even social science teachers, as a requirement for certification."

Urges Action by Businessmen

Dr. Wilkinson passed the ball to businessmen in urging programs such as the one which has been adopted by the NAM. He said: "We must take the initiative. . . . . to inform the American people on all age levels of the inherent strengths and the great achievements of a free economic society. . . . .

"In these days, in which business is asked to make substantial contributions to institutions of higher learning, I submit there is a duty on the part of the donors to see that the recipients of their gifts not betray the hand which feeds them."

Where do the public's misconceptions, as evidenced by the above-mentioned surveys, come from. What often happens when students are taught about economics?

Larry Hogan, TELEPHONY's Washington editor, writing in the Nov. 11, 1961, issue, indicated that what students are taught about economics, both in high schools and college, often has a socialistic tinge. Teachers themselves need to be better informed and a close look taken at just what pointers they are passing on to their pupils.

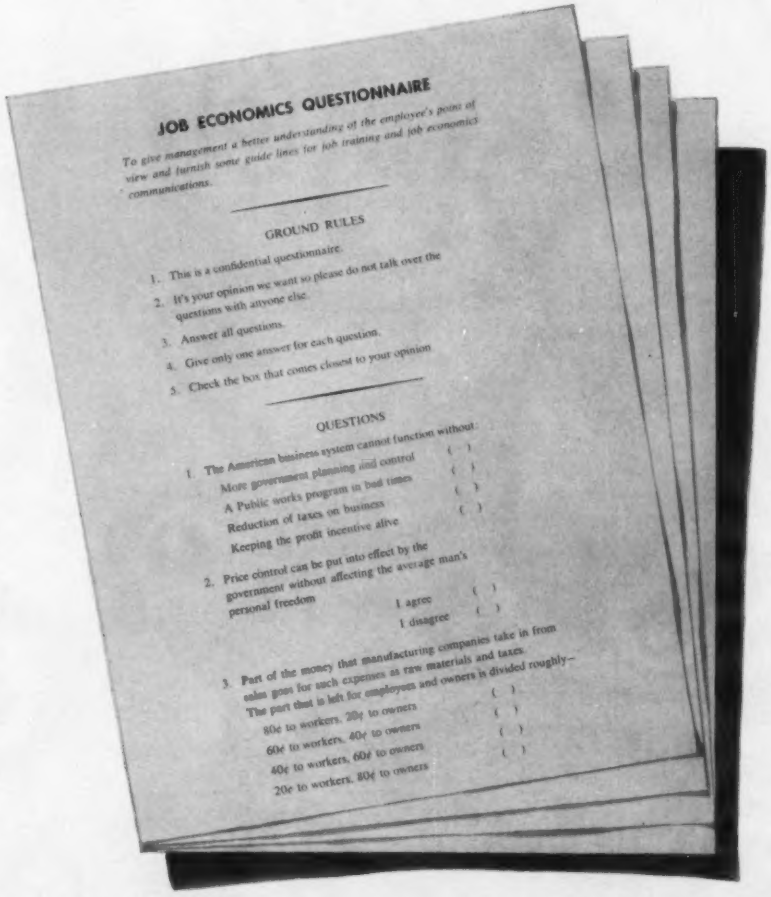
Telephone Companies Warned

Mr. Hogan warned telephone companies: "It is not far fetched that a telephone company could make a substantial contribution to a university and have the money used to finance a study by a liberal professor showing why all utilities should be publicly owned."

The National Association of Manufacturers has taken steps to publicize free enterprise's story and to educate the public, through its field-tested Economic Education Program for use in schools, business organizations and communities.

In addition, NAM has encouraged the business community to:

- Provide economic education for


JOB ECONOMICS QUESTIONNAIRE

To give management a better understanding of the employee's point of view and furnish some guide lines for job training and job economics communications.

GROUND RULES

1. This is a confidential questionnaire.
2. It's your opinion we want so please do not talk over the questions with anyone else.
3. Answer all questions.
4. Give only one answer for each question.
5. Check the box that comes closest to your opinion

QUESTIONS

1. The American business system cannot function without:
   More government planning and control ( )
   A Public works program in bad times ( )
   Reduction of taxes on business ( )
   Keeping the profit incentive alive ( )
2. Price control can be put into effect by the government without affecting the average man's personal freedom
   I agree ( )
   I disagree ( )
3. Part of the money that manufacturing companies take in from sales goes for such expenses as raw materials and taxes. The part that is left for employees and owners is divided roughly—
   80¢ to workers, 20¢ to owners ( )
   60¢ to workers, 40¢ to owners ( )
   40¢ to workers, 60¢ to owners ( )
   20¢ to workers, 80¢ to owners ( )

The NAM "Job Economics Questionnaire Service" (with confidential scoring guides) which permit employers to evaluate job applicants' and employes' economic understanding.

employes;

- Urge state departments of education and local school authorities to give economics a permanent place in elementary and secondary school curricula;
- Support the teaching of economics in colleges by making available personnel and facilities as well as funds;
- Encourage the teaching of economics in teacher training institutions;
- Support all sound efforts for in-service training and the development of classroom materials and techniques for teaching economics;
- Participate in open discussion before school and college groups so that industry's point of view will become better known;
- Support sound programs of economic education for adults at the community level.

JOBS DON'T JUST HAPPEN
THE OTHER SIDE OF THE COIN
The Case of THE MISSING MOVIE STAR
There is Royalty in America
PRODUCTIVITY
A Hand that's hard to beat

Employe communications leaflets, furnished at cost to NAM members, for increasing economic understanding among employes.

NAM Offers Materials

To aid businessmen in accomplishing these ends, NAM is providing a variety of materials.

An 11-title series (with discussion leader's guide) has been prepared by NAM education-research specialists for use in high school classrooms. This "Industry and the American Economy" series tells industry's story in terms acceptable to educators and understandable by students. It is featured in NAM's yearly educational-aids catalog and addressed to some 70,000 teachers and school administrators.

The series, which provides a comprehensive, up-to-date instruction in economics suitable for classroom use, includes the following titles:

The Growth of American Industry.

You and American Competitive Private Enterprise.

Capital and Economic Growth.

Productivity and Production in Industry.

Industry's Profits.

Industrial Research and Development.

The Role of Competition.

Wages and Prices in an Industrial Economy.

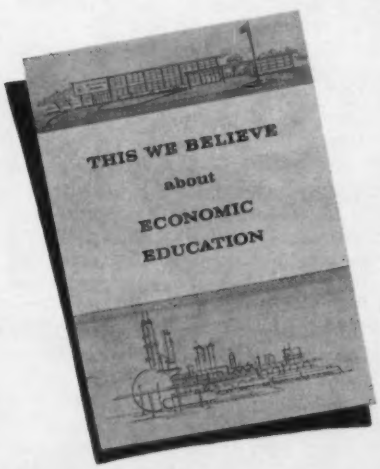
Industry: Organization and Employes.

The Role of Marketing.

Our Native Land (conservation).

This series of teaching aids is furnished to teachers in class room quantities (25 to 250 copies) at no charge, on request.

A slip-cased set for book shelf reference is also furnished.



The NAM believes it is essential for every citizen to have a basic understanding of our economic system, if freedom, American style, is to be properly safeguarded. This booklet explains the NAM's Economic Education Program.

Few on Job Have Economic Knowledge

Although this step has been taken to better inform youth, of the more than two million yearly who go from school to jobs, fewer than five in every hundred have received economic instruction.

To tackle this economic illiteracy from another angle, NAM has directed part of its program toward employes.

A job economics questionnaire service is a key feature of the program. This 36-question personnel tool (with confidential scoring guides) permits employers to evaluate a young applicant's and, where desired, an older employe's, economic understanding.

How Results Can Be Used

The facts gained from the questionnaires serve management in:

(1) Determining the need for in-plant economic education.

(2) Evaluating progress in employe understanding of business economics.

(3) Determining employe potential for advancement.

(4) Establishing the case for economic education in local high schools.

(5) Securing educator cooperation in giving economic education a permanent place in local elementary and secondary school curricula.

(6) Providing yardstick for continuing measurement of a high school's economic education instruction program.

The questionnaires are furnished in usable quantities at no charge to participating NAM members. A second part of the employe education program consists of two series of communications leaflets.

Series No. 1

In series No. 1, the five folders help to explain, in simple terms, the role of investment capital; productivity in relation to wages; competition and its effects on prices; the punishing aspects of progressive taxation and the relation of profits to progress.

Titles are:

Jobs Just Don't Happen.

The Other Side of the Coin.

The Case of the Missing Movie Star.

There is Royalty in America.

Productivity, Industry's Batting Average.

Series No. 2

Series No. 2. also consists of five folders. These leaflets help employes relate job prospects to the foreign competition problem; union monopoly

(Continued on page 39)

ETV

THE EDUCATIONAL TELEVISION FIELD

By THOMAS R. WARNER*

EDUCATIONAL television is not a new development just beginning to appear on the American scene. The present widespread interest in this field is an outgrowth of the increasing shortage in regular educational facilities, as well as our long-time national objective of supplying the best possible education to the greatest number of people.

The use of television broadcasting for educational purposes (and of radio broadcasting before the perfection of TV), both locally and nationally, has been with us for many years. The nation's major commercial TV networks have allocated many hours of air-time to the nationwide transmission of instructional programs. Many TV broadcast stations dedicated solely to the transmission of educational material have been licensed by the Federal Communications Commission and are in daily operation.

The use of closed circuit facilities to transmit the same instruction from a central location to several classrooms in the same building or to several buildings in the same community has been going on for some time. At least one state, South Carolina, is progressing with a program which will make use of closed circuit facilities to supply the best possible instruction to *all* schools within the state. As a result other states are also investigating this approach to improvement in education.

Some Basic Terms

ETV (educational television) is well understood in its broad connotation, but much confusion arises when these letters are too loosely used to indicate how the task is accomplished. Before reviewing the ETV field more thoroughly, it would be wise to consider some basic distinctions and definitions for the purposes of this report.

T. R. WARNER

Broadcast ETV (or ETV broadcasting) as used here means the distribution of educational material from a central source by transmission from a radio-TV station through the air directly to any and all TV receivers capable of accepting the broadcast station's signals. Any wire circuits associated with this method would be similar to those used to supplement or augment regular radio and TV station operation—studio-to-transmitter lines, local pickup facilities, intercity network circuits, etc.

Closed circuit ETV means the distribution of educational material by transmission over a coaxial cable from a central originating location to only those receivers connected to the cable distribution system. For intercity transmission, microwave radio facilities may be used in lieu of cable but there is no radio broadcast transmission directly to the receivers.

Educational Use. Enrichment and training, as separate components of ETV need to be understood. *Enrichment* refers to that part of the ETV output which would be beneficial to those receiving it while *training* refers to that part which is essential to or a requirement of those receiving it. As a further amplification, enrichment material would be of a type which might be degraded in quality of reception or from which portions might be skipped entirely without undue adverse affect upon the recipient. Training material, on the other hand, must be of the highest possible transmission quality and dependability so that *no* portion of the essential impact upon the recipient may be lost.

There are two broad areas of ETV contact also: Continuing education and basic formal instruction. These areas have different criteria in content, time, place and purpose. *Continuing education*, for those who have completed their years of formal education and are embarked on their careers, calls for broad and mature program content touching upon many fields, available at times other than the normal daily work period and delivered to the individual at a place most convenient for him (generally in his home).

In the majority of cases its purpose is one of enrichment. *Basic formal instruction*, primarily directed to those undergoing formal education, requires a program content which offers periods of required instruction or augments existing classroom teaching, available during regular school hours and delivered to the student's classroom. The usual purpose here is training first with enrichment second.

Technical Facilities. The technical components of the ETV process can be divided into studio, distribution and classroom facilities. *Studio facilities* embrace all the equipment required to transform the teaching process into a form suitable for electrical distribution. This would include studio classrooms, cameras, microphones, film scanners, video tape recorders and all the properties and visual aids supporting the instruction.

*Mr. Warner is Technical Director of United States Independent Telephone Association. This is a reprint of a book which he prepared to provide Independent telephone companies a background for possible future activity in the ETV field.

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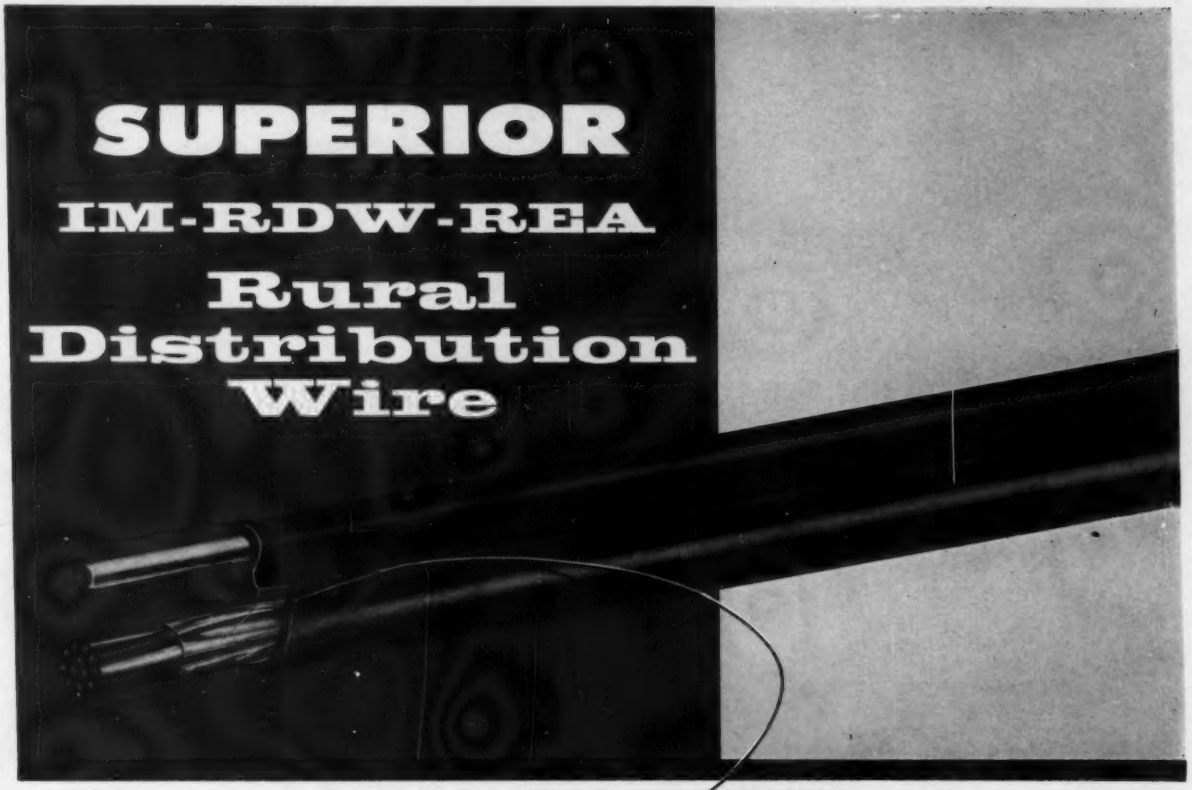
IM-RDW-REA
Rural Distribution Wire



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Superior IM-RDW-REA Rural Distribution Wire *exceeds* REA Specification PE-28 by providing fully color-coded *high density* polyethylene conductor insulation, and by the use of nylon rip cord under the outer jacket.

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Write for detailed information and prices

Also available with Superior's exclusive "all-weather core"—black, high density polyethylene insulated conductors with inlaid color-coding stripes of monofilament polyethylene.

SUPERIOR CABLE

Superior Cable Corporation • Hickory, North Carolina

6061

Taping of an ETV chemistry lesson of high school level in a Columbia, S. C., studio.

Distribution facilities would include everything necessary to electrically transport programs from studio to receiver. In the broadcast ETV method this would be the regularly licensed transmitting equipment including antennas and, when more than one transmitter is being used, the facilities connecting the studio to the transmitters. In the closed-circuit ETV method a distinction is made between the local circuits within a school district to which receiving equipment is connected directly and the intercity circuits connectng a central studio facility with two or more school district local circuits.

Classroom facilities covers the TV receivers needed to accept a broadcast ETV program, the receiving equipment associated with the local circuits of a closed-circuit ETV system and, in some plans, room interrogation of a centrally located instructor.

Present Developments

As individuals we can advance our knowledge and skill through reading, observation, practice and contemplations. The best teaching, however, takes place when there is direct contact between a thoroughly prepared instructor and a receptive student. Some sources have estimated that there exists a shortage of over 130,000 teachers to meet today's needs. It has also been said that about half of all college graduates during the 1955-1965 period would have to enter the teaching profession to fill the need. With an allowance for exaggeration in these figures and accepting some loss in direct contact between teacher and pupil, a great increase in the use of ETV seems evident.

There are more than 50 ETV broadcast stations on the air in 33 states at present. These stations fall into three categories, (1) those which are state owned and operated, (2) those owned and operated as a part of an educational institution and (3) those owned and operated by non-profit associations as community sponsored projects. In addition, as previously pointed out, the commercial TV networks have provided time on their facilities for educational programs and in some cases educational institutions have worked directly with commercial TV stations.

The great advantage of broadcast ETV is its ability to directly disseminate its program to all TV receivers within its coverage area simultaneously and at no additional transmission expense other than the usual broadcast station costs of operation. It can reach every classroom in its area and make a classroom of every home equipped with a receiver. In the practical view, it is superior to closed circuit TV for continuing education and enrichment as it can place the program material in the home at the most desirable time and at the least cost to the supplier.

Limitations Affecting Broadcast ETV. However, there are also severe limitations acting upon broadcast ETV. Each ETV station can transmit only one TV program at a time. Each station requires a radio frequency allocation similar to those needed for commercial TV stations. Only a limited number of these channels are available for educational use and most of these are in the ultra-high frequency (UHF) range. The geographical coverage of a UHF station is severely restricted particularly when compared to the coverage of a VHF station.

Since 1952, the FCC has reserved 92 VHF and 191 UHF TV channels for educational use. In the intervening 10 years, 41 VHF and 16 UHF educational TV stations have been established. Thus, while some 45 per cent of the VHF reservations are in service, only 8 per cent of the UHF have been used. Coverage is as important to broadcast ETV as it is to commercial TV. In an attempt to expand the service area a group of midwestern educational institutions have embarked on a program of air-borne broadcast ETV. Using aircraft flying at some 23,000 feet they have expanded coverage to a 200-mile radius from the aircraft location.

To provide more than one subject per-period-scheduled, this air-borne program operates two transmitters

This teacher is instructing lower grade school arithmetic by ETV in Hagerstown, Md.

simultaneously giving the viewers a selection of two programs. The city of Pittsburgh, Pa., accomplishes this by operating on both a VHF and a UHF channel. However, multi-channel broadcast operation can never be a complete solution due to the limited availability of channels.

Many of these limitations are of minor concern to the third category of stations mentioned earlier—the community supported non-profit educational stations. The objective of placing excellent educational programming free of commercial influence into the homes of a community can be most economically achieved by broadcast techniques. The burden of good reception and technical excellence of receiver reproduction are responsibilities of the set-owner and all the costs associated with reception are charged to the viewer.

Cost has an important bearing on the development of ETV. Broadcast ETV is attractive because there is no cost involved in the transmission medium itself—the atmosphere—although the cost for the transmitting facilities are not small. That part of the cost connected with reception is passed on to the ultimate viewer. As a means of lowering these station costs, and thereby making the use of broadcast ETV more attractive, the University of Utah conducted tests during the past year utilizing extremely low power (10-watt) UHF TV translator type transmitters to achieve local distribution. This project offers a potential for multi-channel programming at a more reasonable cost, although it would require some modification of existing FCC regulations and could ultimately encounter difficulties from the expansion of commercial UHF TV operations.

This is a third grade music teacher in Hagerstown, Md., teaching via a "live" ETV program.

View from control room into studio where high school ETV French lesson is being taped in Columbia, S. C.

Closed-circuit facilities for ETV have also been used for the past several years. A primary limiting factor has been the cost of the coaxial distribution plant when compared with the cost of radio transmission facilities. There are a great many closed-circuit ETV systems in operation today, although the greater part of these are restricted to within a single school or to on-campus systems at universities.

In the areas of basic formal instruction and training, closed-circuit ETV offers features not readily or economically available through the broadcast method. Present-day coaxial cable development permits the *simultaneous* transmission of up to six separate instructional programs over the same cable. Every viewer connected to the system can receive the same quality of signal—the problems of fringe area reception, shaded locations, ghosts and external signal distortion which confront the broadcast ETV method are not present. It is possible to incorporate high definition color TV with uniform quality of reception. It is also possible to provide a voice talkback or interrogation channel from the TV classrooms to the originating studio.

At Hagerstown, Md. for example, some 95 miles of cable were used to link 38 schools to a central location with five studios producing 25 lessons per day. In Cortland, N.Y., a two-way voice system was used which permitted instructors in the satellite classrooms to signal the TV teacher when a student had a question, broadcast the student's question in all classrooms for the benefit of the other students prior to the transmission of the answer by the teacher.

The South Carolina Program. The most extensive development in the closed-circuit ETV field to date has taken place in South Carolina. There, a preliminary survey indicated only four broadcast ETV stations were allocated to the state, each could generate only a single program channel, only 12 half-hour subject periods per school day could be provided, and these would not reach all the schools in the state. A further study indicated that even if 36 broadcast stations could be authorized, there would be only limited areas where three-channel service could be made available to the schools.

In a preliminary survey of closed-circuit ETV, the State Board of Education found it could reach the 413 high schools in the state with 36 subjects at an annual cost of $12.67 per pupil. This represented total cost and included teachers, technicians, studio equipment, receivers and transmission facilities from the telephone companies. This was based on a three-channel system, but could be expanded to four at little additional cost.

In a recent discussion of ETV on the floor of Congress, two congressmen quoted a survey made by the Southern Regional Education Board which indicated the cost of conventional instruction in 300 colleges in 16 states ranged between $12 and $18 per student-semester-hour. This survey also estimated the cost of broadcast ETV at $2.80 per student-semester-hour. If we assume two semesters per year, and also consider three yearly subjects

then this would reflect $16.80 per pupil annually as compared to South Carolina's $12.67. This might be an indication that, in meeting the teacher shortage in formal education and training, the closed-circuit approach may be the most economical to the taxpayer in the long-run.

South Carolina is proceeding with its expansion plans for closed-circuit ETV. Both Independent telephone companies and the Bell associated company are cooperatively furnishing the distribution system. Studio equipment and classroom receivers are furnished by the state and local educational agencies. In the past year several other state agencies have taken a long look at the accomplishments in South Carolina.

Congress Looks at ETV

During several past sessions of Congress proposals for government aid to educational TV (not to be confused with aid to education) have been advanced. Many of these passed the Senate but until this year always failed to pass in the House. Congressional preoccupation has been with broadcast ETV and at times these proposals, eithur deliberately or inadvertently, would have ruled out the application of government funds to closed-circuit ETV.

In the first session of the 87th Congress the Senate passed and sent to the House S. 205. In the House, H.R. 132 was introduced in January, 1961, reported out by the Committee on Interstate and Foreign Commerce on Aug. 21, 1961 and finally brought to the floor and passed, 337 to 68, on Mar. 7, 1962. A conference committee must now consider these bills as they differ in several important aspects.

House and Senate Versions on Aid to ETV. The Senate bill provides for outright federal construction grants limited to 1 million dollars per state for a possible total commitment of 50 million dollars. The House version limits the total to 25 million dollars on a 50 per cent matching grant basis.

The House bill would provide some funds to assist states in making surveys and plans for state programs which would be eligible for these grants. No such provision is in the Senate bill.

Both bills limit the application of funds to the construction of facilities for broadcast ETV as opposed to costs of operation. The Senate version would permit the purchase of studio equipment for use with closed-circuit systems as well as broadcast. The original House version would have prohibited this but was amended through the efforts of Congressman Hemphill of South Carolina to read, "including apparatus which may be incidentally used for transmitting closed circuit television programs."

Both bills provide that the facilities will be used only for educational purposes. Administration of available funds including grants would be a responsibility of the Department of Health, Education and Welfare. The licensing and regulation of broadcast operations would remain with the FCC.

Early developments in the closed circuit ETV were built upon special contracts as a tariff meeting the ETV situation completely did not exist. In November, 1961, AT&T filed tariff No. 253 with the FCC covering "channels for television transmission for use in educational television systems." The tariff became effective Dec. 7, 1961. Some of the provisions in this tariff are worthy of note.

The tariff provides two classes of channel systems: (1) Local distribu-

(Continued on page 44)

EDITOR'S NOTE

(Congress has passed and sent to the President S. 205, an amendment to the Communications Act of 1934 establishing a program of federal matching grants to construct educational television broadcasting facilities. This measure makes 32 million dollars available with a maximum of 1 million dollars to any state. The program will be administered by the secretary of health, education, and welfare. A 15 per cent limit was placed on any grant for acquiring and installing microwave equipment, boosters, translators and repeaters used to connect two or more broadcasting stations.)

University of Illinois Signs for ETV

The University of Illinois board of trustees on Apr. 18 voted to authorize the university comptroller to have Illinois Bell Telephone Co. install a two-channel educational television (ETV) network on the Urbana campus.

It will be the first such system in Illinois. It will go into operation at the beginning of the Fall semester.

A new schedule of rates Illinois Bell has developed for educational television facilities helps make the university's system possible.

The new service, designed specifically for schools and colleges, is possible because ETV has no need for services such as 24-hour monitoring, split-second switching, special supervision, and stand-by circuits.

Using educational television, students in a score or more rooms in several buildings can watch a chemistry professor perform an experiment in another building at the other end of the campus.

Illinois Bell will provide the coaxial cable facilities for the system. The university will originate its ETV programs in the auditorium of the Illini Union Building and a new assembly hall. Cable will connect these buildings with the new WILL-TV studios, the university's TV station where programs also will be originated.

Other cable will connect WILL-TV with four university buildings which will be able to receive programs.

The university will be able to use regular television receiving sets in the system. The sets will be able to receive either of the university's channels as well as commercial broadcast channels.

The ultimate ETV plan of the university envisions a system of six channels, with programs originating in up to six buildings and facilities for distributing them to classrooms in 20 or more buildings. The ultimate plan also calls for facilities to permit two-way conversations between students and instructors.

Illinois Bell can provide low-cost facilities to public and private schools and other non-commercial educational organizations. The company has made two types of systems available, both of which operate 24 hours a day, seven days a week.

(1) A local system for school districts, colleges and universities which could provide up to six channels. (This is the kind of system adopted by the University of Illinois.) Cable could be extended 25 miles from central city.

(2) A regional system, with up to five channels, to connect local systems more than 25 miles from the source of the signal. Such a system could be used by groups of county school districts or several colleges, for example.

Both these systems allow educational institutions to develop their own ETV programs or join with other groups in common programming. The customer uses his own cameras, receivers, and studio equipment.

TODAY'S HIGHLIGHTS

of finance-taxes-business trends

By WILLARD F. STANLEY

BONDS SURPRISE AGAIN: Sales of Southern Bell Telephone Debenture issue on or about Apr. 19 on a 4.27 per cent yield basis to the public for a triple "A" rated security witnessed a new high in bond pricing for the current year. After the lowered bond yields of the first three months, it had been expected that bond prices might mark time for awhile, but the 30 days ended Apr. 23 saw a rise to new high price levels for 1962.

The Southern Bell offering basis compares with a yield of 4.52 per cent for the triple "A" rated AT&T debenture offering on Feb. 14, indicating about one-quarter of 1 per cent per annum lower yield on this class of security in a period of a little over two months.

Both of these issues carried a five-year prohibition against redemption of the new bonds which has generally been considered as likely to reduce yields by at least one-fifth of 1 per cent per annum. Assuming this to be the case, the Southern Bell yield basis would not seem quite so sensationally low, since without the redemption prohibition this would indicate a yield around 4.47 per cent with 4.72 per cent for the earlier AT&T issue.

Therefore, it would appear that either yields have not slipped down as much as the figures indicate, or else the redemption prohibition has become sufficiently prevalent to reduce its value to the issuers as a yield reducing factor. If only 0.10 per cent to 0.15 per cent per annum is now being allowed for this factor, the Southern Bell debentures, with the right to redeem at all times, would bear an indicated equivalent yield of 4.37 per cent or 4.42 per cent.

That bond yields have continued to fall and prices to rise is amply confirmed by the Wall Street Journal tabulation as of Apr. 18, which indicated that for 11 new public utility funded debt issues, the average bids produced a yield 10 decimals (0.10 per cent per annum) lower than the yield resulting from the average original offering prices of the securities.

It is signicant, too, that each of the 11 new issues was bid for at a higher price at the above date than the original offering price to the public. About 30 days prior to the above date, average yields on new issues, as per this tabulation, were 6 decimals lower on the bid price than on the original offering basis.

Under these circumstances, what should the prospective issuer of utility funded debt do to obtain the best advantage? The answer would seem to be "bring the new offering to market as rapidly as possible to obtain the benefit of the present favorable yield situation." This does not mean that needs for funded debt money should be anticipated for a long period in advance,

Mr. Stanley, formerly a utility financial executive, is now president of Corporate Services, Inc. of New York City and is well known as a financial writer. He is a member of the Controllers Institute of America and the New York Society of Security Analysts. He serves on the Finance Management Committee and the Tax Committee of the Controllers Institute (N. Y. Control). His articles are appearing once a month in TELEPHONY.

but only that as to such needs within the moderately near future, it would seem wise to move as rapidly as feasible to offer the securities.

At about the end of March the average price-earnings ratio for utility common stock stood about 22.2 times, compared with 22 times a month earlier and 21.6 times 60 days previous. Needless to say, this results in such a favorable equity money cost to issuers as to indicate again, at the risk of monotony, the advisability of promptly bringing to market common stock sufficient to take care of the needs for this type of funds for one or two years into the future, or even longer. Perhaps even lower yields may be obtainable in subsequent periods, but the present ratio is so unprecedentedly high as to insure an extremely low historical money cost.

* * * *

STOCKS DIP, THEN RALLY, THEN DROP AGAIN SHARPLY: From Mar. 30 to Apr. 26, the stock market passed through three phases —first, one of continuous and fairly sharp decline, then a rather protracted partial recovery, followed by a brief, but even sharper, decline. Leading news during this period was, of course, the steel situation. First the market reacted unfavorably to the rise in the price of steel and the anticipated anti-business attitude which it seemed likely to engender on the part of the administration. Then, when the steel price rise was rescinded, and later when the President expressed the intention not to penalize the steel industry, or business generally, there was a general recovery in the stock averages. There was little specific happening to account for the drastic decline of the week ended Apr. 27.

The New York Times 50 combined stock average was off about 5 per cent during the above period and at Apr. 26 this average registered a 7 per cent decline from the end of 1961; a 7.5 per cent increase over the market close in 1960; and a 10 per cent recession from the level prevailing at the end of 1959. Individual stocks are being aided in price by favorable earnings comparisons for the first 1962 quarter with a year previous.

A mass of additional earnings increases for the first quarter are expected to be disclosed shortly, which should have a reviving effect on many issues. But it should always be remembered that these increased earnings usually apply to stocks which are now selling at extraordinarily high prices in relation to their earnings before the increase and that, even after the anticipated current increase, the price-earnings ratio will, in many cases, still be extremely high in terms of financial history since the turn of the century.

* * * *

ECONOMY MOVES FORWARD, BUT AT SLOWER PACE: The conditions affecting the national economy remained relatively unchanged during the past month. There were many important statistics on the favorable side, but quite a few to the contrary. For some time past, economists and business leaders have toned down their original over-bright pictures of 1962, so that while the future still is expected to hold much that is pleasant, it is expected to fall in degree considerably below the extravagant prophecies which were almost universal around the turn of the year.

Business and earnings should forge ahead, but, apparently, not at sensational rates. The steel-labor settlement, while quite satisfactory from an inflationary viewpoint, has somewhat lessened the demand for that product, since many had been stockpiling in anticipation of what might have been a protracted strike.

* * * *

INCOME TAXES: After passing the House with a 3 per cent tax credit for utilities, the new tax bill is now before the Senate Finance Committee. The utility industry has asked that the utility credit rate be increased to that of other companies (7 per cent), while, on the other hand, Secretary of the Treasury Dillon has requested, in behalf of the administration, that utilities be completely excluded from the measure. The outcome remains in doubt, but some recognition of the utilities' position seems warranted and, on the whole, likely, at this juncture.

So much opposition has developed to the withholding provisions of the bill affecting interest and dividends, that there is the possibility that if this provision is deleted, the entire bill, including the tax credit, may be sidetracked for this year, since the anticipated revenue loss to the Treasury from the tax credit feature, unless compensated in part by the withholding provision, could throw the situation out of balance to a serious degree.

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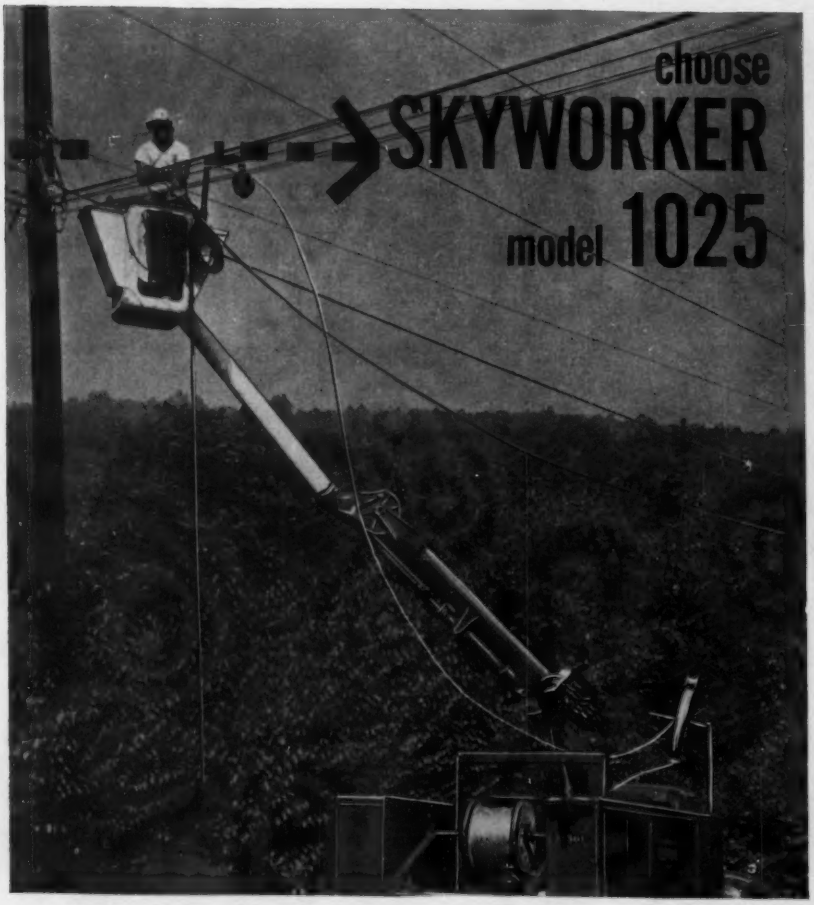

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SKYWORKER **Model 1025, designed with the aid of telephone engineers, is built only for telephone industry use. Result: revolutionary safety, high operational savings, wide versatility, maximum efficiency.**

Plus the jobs illustrated above, Model 1025 briskly handles these assignments . . .

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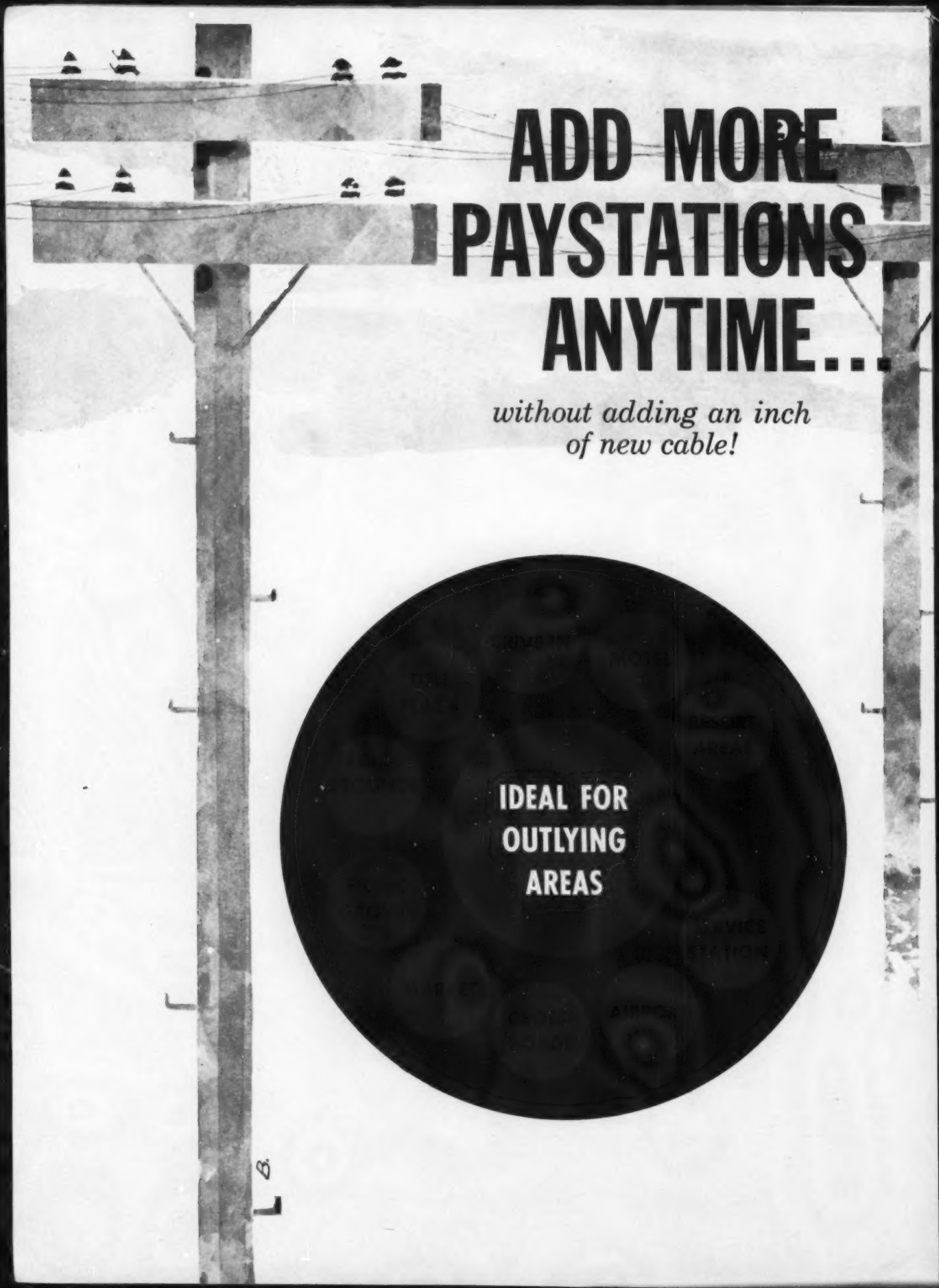
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With a Kellogg Paystation Carrier, a *single* line serves up to 8 paystations—and any or all can be easily moved anytime...to a new location, anywhere along the line. Eliminates need for additional cable, more open-wire lines, or expansion of plant facilities.

SAVES TIME AND MONEY—low first cost, low installation cost, low operating cost, low maintenance cost...quickly amortized, 100% recoverable.

NEW! FULLY TRANSISTORIZED—compact, trouble-free unit operates off standard 110-125 V. AC...fully compatible with Kellogg K-31 Rural Subscriber Carrier. Paystation channel easily mounts in the K-31 shelf and uses all existing common equipment.

Compact paystation terminal...fits in otherwise wasted space, under seat or telephone shelf, out of sight, out of the way.

For complete details and technical information, or an appraisal of your paystation carrier needs, fill in the coupon below.

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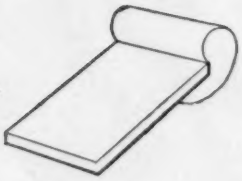
The Plant Man's NOTEBOOK



By RAY BLAIN, Technical Editorial Director

A NEW "ZIP-ZIP" was added to the familiar telephone signals for customers when the General Telephone Co. of Upstate New York, Inc., Johnstown, cut over the Port Jervis district to DDD recently.

The new tone is in addition to the "busy signal" and "dial tone", and "ringing signal". It is a short, soft burst of tone, well described by its name—"zip-zip". This tone will be heard as an important part of every DDD call. The telephone user will hear it after he completes the required dialing procedure when making a DDD call.

The "zip-zip" tone will indicate that an operator has momentarily cut in on his call to record the number of the telephone he is using. Upon hearing the "zip-zip" tone, the calling party should promptly give his telephone number, and the call will be speeded on its way. Should the calling party fail to give his number, the operator will ask for it—but good DDD practice requires the calling party to state his number without being asked. If the calling party fails to provide his number when he hears the tone, the call will be withheld from the DDD equipment.

•

This writer visited the main office building, that aluminum castle of the Reynolds Metals Co., in Richmond, Va. the day the heaviest snow storm in over 20 years hit the area. We were somewhat amazed to note several young ladies come wading in through the snow with their toeless shoes protected with aluminum Reynolds Wrap. We tried this method later on our own larger shoes, and it is amazing how easy it is to form this wrap around the shoes to privide adequate protection from water, snow and mud. Furthermore, the wrap may be removed, folded and preserved for use another time. Its wearing qualities are amazing.

It occurs to us that this wrap could well be used in a somewhat reverse manner by telephone companies. Troublemen and installers must frequently enter homes during inclement weather, and the proper cleaning of shoes to prevent tracking mud in is always a problem. Why not furnish these men some Reynolds Wrap to cover their shoes when they must walk over expensive rugs to install, or repair telephones? Certainly, this small expense would be justified, in view of the favorable public relations image it would create for any telephone company.

•

A small, 10-pound combat radar, that is held like a submachine gun, and can spot a moving target more than a mile away, has been developed by the Army Signal Corps. This hand-held flashlight radar produces an audible signal when an object passes through its invisible beam. It ignores stationary terrain, and picks out only moving objects.

A tank, a jeep or soldiers moving toward the radar are clearly detected, and each gives a characteristic sound. An experienced operator can spot a tank by its two-pitched sound, caused by the separate motions of the vehicle body and its turning tracks. The radar signal from a jeep or truck is a single whine which varies with speed. Soldiers walking create another distinctive sound caused by leg and body motion.

Such movements can be detected even through fog, darkness, and light foliage. The operator monitors the sounds and, if necessary, he can attach an auxiliary unit to the set for a visual display. This gives more detailed information on the distance and character of a suspect target. It can search for targets at ranges over a mile and a quarter.

•

Telephone users in Toronto, Canada, may now dial direct to the telephone on the desk of the party desired in their city hall without going through the PBX operators.

One of the main features of this new Centrex system is the speed with which a caller may reach individual telephones in the city hall. It is estimated that the difference in speed under the old and new systems of handling calls will save 45 working hours per day. There are about 6,000 calls placed to the Toronto City Hall each working day.

The use of this new system will release the PBX operators from the repetitive and mechanical task of connecting calls. Their principal duties will now be the handling of inquiries from the public and making certain that they are passed along to the proper department.

•

A new book just off the press, "Find your Science IQ", should have a strong appeal for the scientific minded. It is designed primarily to enable anyone from junior high school age up to evaluate his interest or aptitude in more than 30 branches of science through a series of fascinating quizzes. While the book can be used strictly for fun by everyone, or as a means of evaluating one's knowledge in the various branches of science; it can also be used as an excellent supplementary teaching aid; or to check interest in, or knowledge of, science by guidance counsellors or industrial directors.

The book consists of a series of 49 quizzes, each complete with answers and ratings. Such fields as chemistry, physics, geology, biology, entomology, zoology, botany, etc. are covered. The quizzes, in game form, are certain to stimulate interest in science. They can also be used to advantage in the preparation of tests for evaluation of interest or knowledge of science. For those who may care to continue further study of the subject, suggestions are included at the end of each unit.

This 6-inch x 9-inch hard-bound book of 128 pages may be purchased from TELEPHONY for $3.45.

"Cross Talk"

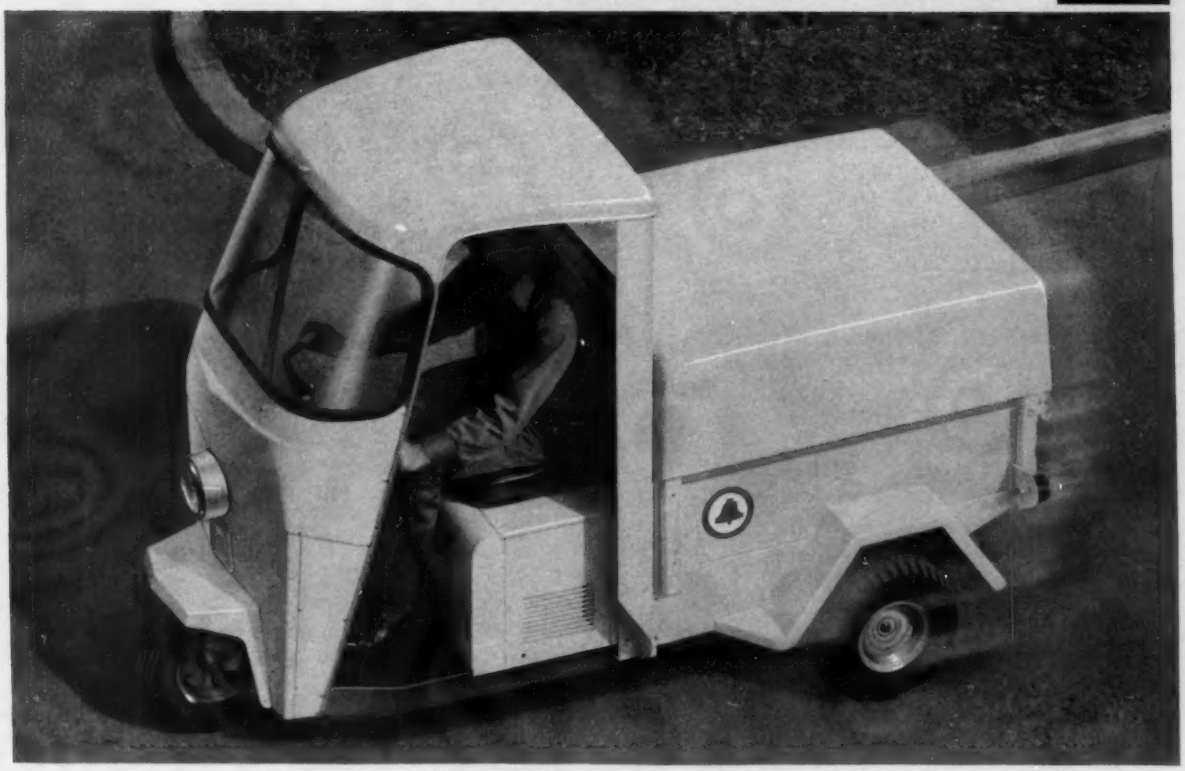
Some predict that the national debt will reach the moon before we do.

•

Ignore the chap who belittles you, as he's only trying to cut you down to his size.

Nearest thing yet to cost-free transportation

CUSHMAN TRUCKSTER.



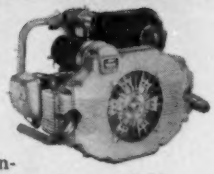
The TRUCKSTER is designed and engineered *specifically* for light hauling applications. It operates for pennies per day and effects important savings on investment, maintenance, taxes and insurance. The Truckster is rugged—takes the strain of over-the-street operation while carrying an 800 pound payload. It's compact and maneuverable—goes many places where other vehicles can't go. Either of two new die-cast aluminum engines—the OMC Twin Super Husky rated at 18 HP or the OMC Super Husky rated at 9 HP —deliver top level efficiency. Want proof of economy? A coast to coast survey of typical Truckster users proves their economy and demonstrates their wide range of utility. Complete results, compiled in condensed form, are available FREE on request.

MANY TELEPHONE COMPANIES USE THE TRUCKSTER TO . . .

• Service outside booths • Expedite PBX and TWX installation and maintenance • Haul parts and supplies

The **TRUCKSTER** can be factory equipped with a wide range of body accessories to handle a variety of applications (or you may build your own body on the Truckster chassis).

NEW OMC 18 HP TWIN SUPER HUSKY ENGINE



Built with power to spare for all delivery and light hauling applications. Die-cast aluminum; full pressure lubrication; electric starter. Single cylinder 9 HP die-cast aluminum engine also available.

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AE provides business communications for large or small subscribers!

Let's talk about two completely different commercial customers in your area. The local bank needs multi-line service with intercom facilities. The holding feature and extension exclusion are essential. For this customer, our 10-A1 key system (with Type 86 phones) is ideal...

The large business office, on the other hand, needs a complete communications system to handle a large volume of incoming, outgoing and internal traffic. This company needs a PABX system with many auxiliary services. AE gives you stock delivery on six PABX boards.

For details on our complete line of business phones, PABX and PBX boards and key systems, see your AE representative. He can also furnish you with valuable sales aids to help you promote business communications equipment. To contact him, just write Automatic Electric Sales Corporation, Northlake, Illinois.

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GENERAL SYSTEM

TYPE 40A PABX A complete communications system for up to 40 lines. Handles up to six inside calls and 10 outside calls at once—using standard phones. Compact attendant cabinet (shown here).

TYPE 86 PHONE Key telephone provides switchboard convenience for small commercial subscribers. Up to six central office, PBX or private lines. Dial or pushbutton intercom service. Choice of colors.

Directors and officers of the Ohio Independent Telephone Association. Seated, left to right: William C. Henry of Bellevue; Walter Wellman of Leipsic; R. R. Waltz of Delta; Robert P. Kaufman of Continental; Robert McKell of Chillicothe; George B. Quatman of Lima, (president); Howard M. Wright of Ashtabula (immediate past president); Coyne C. Bloom of Sycamore; Raymond J. Maxwell of Mansfield; James I. Hunt of Middlefield; Ralph F. Mateer of Warren; Clare E. Williams of Marion, and Weldon W. Case of Elyria. Standing are Daniel W. DeHayes (left), of Columbus, re-elected executive vice president and secretary-treasurer, and H. F. Clapper of Greenville, (vice president).

Buckeyes Take Forward Look At Annual Convention

By DANIEL W. DeHAYES*

"THE FORWARD LOOK" was the progress-minded theme of the 67th annual convention and trade show of the Ohio Independent Telephone Association, when it convened in Columbus on Apr. 3 and 4, at the Deshler Hilton Hotel. Presiding over the information-packed two-day meeting was Howard M. Wright, president of The Ashtabula Telephone Co. and association president.

Attendance was at a record high, with 740 telephone men and women registering. In the trade show, 35 exhibitors intrigued delegates with displays of the latest in telephone equipment and services.

Setting the stimulating tone of the convention was the keynote address at the Tuesday luncheon. The speaker, William Tucker, president of North Electric Co., Galion, had as his topic, "The Forward Look in Telecommunications".

Highlights of his speech included reference to the role communications played in Project Mercury's and Colonel Glenn's successful space flight around the globe. He also commented on the satellite communications program now before Congress. He described the type of systems being considered and voiced his opinion on ownership of the system.

Mr. Tucker emphasized that current bills promoting government ownership or giant corporate ownership "threaten our lifeblood. . . threaten the ideology as well as the realities of free-enterprise and threaten the development of new markets. In a very real sense, they dim the horizon of the satellite era we are now in."

The North president stated, "The Independent Industry experienced a parallel situation when it handed over to a giant corporation all, or a major part, of your toll revenue". He asked Independents, "How much of your energies in recent years have been expended in trying to get back that which you so lightly forfeited?"

Mr. Tucker suggested a logical compromise in the various satellite corporation ownership proposals now before Congress: "Could we not conceive,

*Mr. DeHayes is Executive Vice President and Secretary-Treasurer of the Ohio Independent Telephone Association.

Washington National Airport, Washington, D.C., 1939.

...and hasn't been heard from since

That's only 23 years. Some of our installations go back as much as *60 years* and "haven't been heard from since." With more miles in use than any other conduit, Orangeburg Brand Fibre Conduit has proved itself job by job, time after time. No wonder it's the sought-after-brand for every application.

We introduced fibre conduit in 1893, and it was a superior product then. Over the years we've steadily improved it... with such innovations as fast-assembling C.A. (coupling attached) Conduit and klean-kote (for cleaner handling). As a result, Orangeburg Brand Fibre Conduit has maintained its superiority, retained its place as the unquestioned leader in its field. So ask for—and make sure you get—*genuine* Orangeburg Brand Fibre Conduit.

KLEAN-KOTE*

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FIBRE CONDUIT

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*KLEAN-KOTE IS A TRADE-MARK, U. S. PATENT APPLIED FOR.

Orangeburg Klean-Kote is distributed by Graybar Electric Company and General Electric Supply Company with Branches and Stocks in Principal Cities.

Orangeburg Manufacturing Co., Orangeburg, New York. Division of The Flintkote Company, Manufacturer of America's Broadest Line of Building Products

and would it not be within the best interests of the Independents, if the stock of this giant corporation were 25 per cent owned by the United States Government, 25 per cent by the few industry giants, and the remaining 50 per cent owned by private investors, including Independent communications companies and the general public, with percentage restrictions to insure against domination by a single corporation.

"The first two classes of stock, that held by the government, and that held by the industry giants, could be non-voting. I merely offer this as a thought, predicated on a conviction that the Independents should and must participate in this program regardless of the technical difficulties and the final form any broad-based ownership concept bill may take. You may rest assured, within a reasonably short period of time, you will be transmitting and receiving over your lines satellite communications."

Future Advancements Listed

The North president also captured the attention of his audience when he brought into quick and sharp focus current and future advancements in communications. He predicted homes protected by their own fire and burglar alarm systems operating through local telephone systems; water, electric, and gas utility meter readings being processed by means of data transmission over telephone lines; latest newscasts revealed by the touch of a button on a telephone; businesses utilizing slow-frame video circuit equipment for monitoring, inventorying, producing and manufacturing operations; printed invoices, orders, billing, etc., transmitted via telephone channels; wireless personal pocket telephones and retail, gasoline and other credit establishments processing invoices during low traffic level night-time hours.

Howard M. Wright, (right) Ohio Independent Telephone Association president and president of Ashtabula, (O.) Telephone Co., congratulates William Tucker, president of North Electric Co., on his address before the Ohio Independents.

Mr. Tucker ended his address by asking Independents to ask themselves, "What business am I in? It is my sincere hope you do not answer by saying, 'I am in the telephone business.' If you do, if your vision and your horizons are that limited, you could be in for trouble."

In Communications

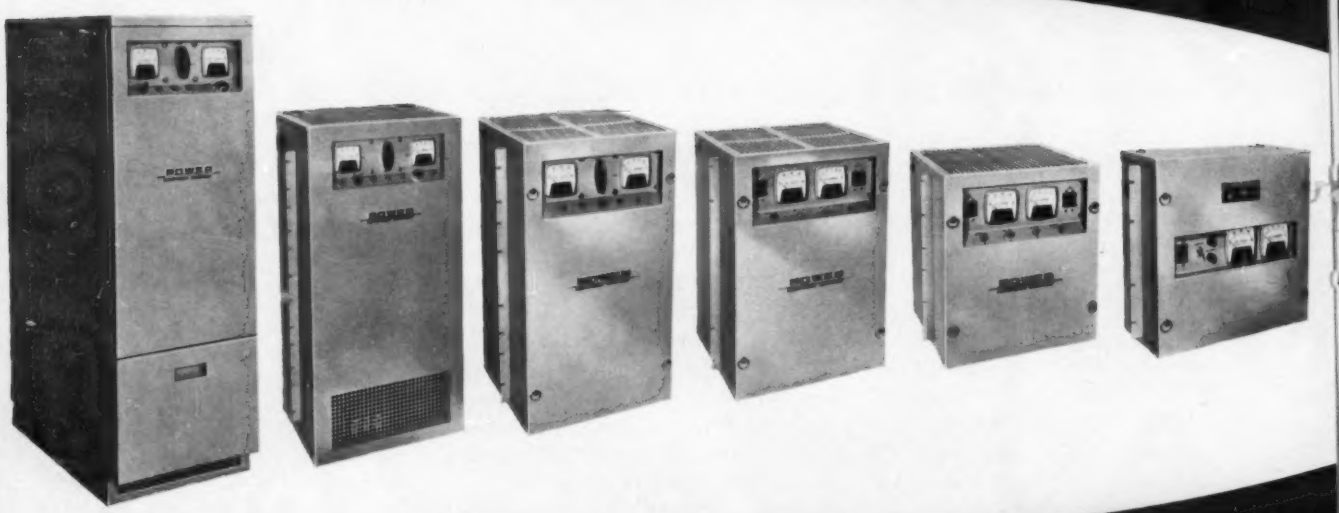
"From the inception of the industry, railroad people have said they were in the railroad business. Actually, they were and still are. They failed to recognize, however, that operating railroads put them in the transportation business. You know what happened to the railroads.

"If there is a difference between

NORTH ELECTRIC

VISIONEERING ACHIEVEMENT
SINCE 1884 . . . INTO THE FUTURE

COMPLETE



the railroad business and the transportation business, there is also a difference between the telephone business and the communications business. Telephones just happen to be the end instruments you presently provide for people to communicate. Please, don't limit your growth and your profit by the equipment and the facilities you bought yesterday or today, or will buy tomorrow", Mr. Tucker concluded.

Speakers at the first regular afternoon program were Rankin Gibson, member of Public Utilities Commission, and F. Joseph Rachor, Arthur Andersen & Co., Cleveland.

Taking the topic, "A New Commissioner Takes a Forward Look at Telephone Regulation," Mr. Gibson announced that the commission members are engaged in an attempt to speed up the handling of regulatory cases by sitting in on hearings, themselves, along with the commission's attorney examiner, as opposed to rendering decisions on the basis of reading written transcripts or being briefed by staff members.

By-Product of Audits

Telling delegates "What To Expect From an Independent Audit", Mr. Rachor emphasized the construction suggestions and assistance telephone companies could receive as a by-product of an audit. He warned that tax planning should be reviewed each year because of the constant changes resulting from new court decisions, changed regulations, revised policies, interpretations, and laws.

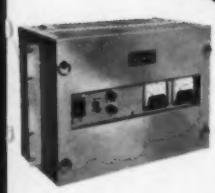
Jack Cluen, general traffic superintendent and vice president of Ohio Telephone Service Co., Warsaw, Ind., at lectern, addressing Ohio convention on "Status of Message Toll Settlement Negotiations".

A "Pioneer Breakfast" started the second convention day for 58 members of the Buckeye State Chapter of the Independent Telephone Pioneer Association. Eugene Craig, editorial cartoonist for the Columbus *Dispatch*, entertained the telephone old-timers with a "Cartoon Chalk Talk".

H. M. DeGroff, vice president of Troy-Tipp Telephone, Inc., Troy, and president of the Buckeye State Chapter, presided over the annual business meeting. Elected president for the coming year was Robert W. Sheldon of Commonwealth Telephone Co. of Ohio, Athens. Other officers are Joseph C. Sharp of General Telephone Co. of Ohio, Marion, vice president; and Galen Klepinger of Troy-Tipp Telephone, Inc., re-elected secretary-treasurer.

The following Pioneers were elected to a one-year term on the chapter's board of directors: Joseph C. Sharp, General Telephone Co. of Ohio; R. F. Mateer, Warren Telephone Co., and W. H. Todd, Northern Ohio Telephone Co. of Bellevue.

LINE OF BATTERY CHARGERS



The line of North Electric PECO battery chargers is the result of a 25 year progressive and outstanding record in the battery charger and custom engineered power supply fields. These 48 VDC constant voltage floating type chargers supply the power demanded by the load AND maintain the battery at a fully charged level. Advanced circuitry provides excellent regulation and assures maximum efficiency. Quality components, conservatively derated, insure long maintenance-free life.

Immediate in-stock delivery in the following ratings: 6 and 12 amp transistorized charger-eliminators, and 12, 25, 50, 100 and 200 amp battery chargers. For new complete data sheets, write *The Dynamic Force In The Telephone Industry.*

SPECIAL FEATURES

— Solid state circuitry — short circuit and overload protection — parallel operation without equalizing connections — silicon rectifiers — convection-cooled — reduced size and weight — relay rack or wall mounting—high efficiency — excellent regulation — low ripple.

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POWER EQUIPMENT — *Custom Power Systems • Battery Chargers*

Opening the second day's morning business meeting, the United States Independent Telephone Association film story of the industry, "The Independent", was shown to delegates.

William C. Henry, president of the Northern Ohio Telephone Co., Bellevue, brought the delegates up to date on "Minimum Service Standards".

"Status of Message Toll Settlement Negotiations" was reported on by Jack Cluen, general traffic superintendent and vice president of Ohio Telephone Service Company, Warsaw, Ind.

The annual awards luncheon, an Ohio association event always holding special interest, was held Wednesday noon. Two classifications of awards were presented this year.

The eighth annual "Beyond the Call Award" was given to Mrs. Mary McKibbin, Mt. Gilead telephone operator for the Ohio Central Telephone Corp., a subsidiary of Telephone Services, Inc., who, last Dec. 21, summoned help in time to contain a major fire which threatened the business district of Mt. Gilead. The award was a silver tray properly engraved to commemorate the event.

Miss Frances McGovern, chairman, Ohio Public Utilities Commission, had "Rate of Return" as her topic at the Ohio convention accounting workshop. With her at the speakers' table are John D. Russel, (left) manager, Public Utilities Division, American Appraisal Co., Milwaukee, Wis., and Harold Cain, treasurer, Western Reserve Telephone Co., of Hudson, O., workshop chairman.

Two Safety Awards Given

George B. Quatman, president of Telephone Services, Inc., and 1962-63 president of the Ohio association, presented the award to Mrs. McKibbin.

Safety awards, in two categories, were presented by J. Maynard Dickerson, chairman of the Ohio Industrial Commission, in behalf of the commission's division of safety and hygiene.

The first category of safety awards was presented in a group classification to six organizations having the best safety records based on the number of man hours of labor exposed to accidents. The group safety award winners were Ashtabula Telephone Co., whose award was accepted by Harold Rushton, controller; Conneaut Telephone Co., accepted by Russell Goebricher, president; General Telephone Co. of Ohio, accepted by John Guthrie, safety director; New Knoxville Telephone Co., accepted by Daniel W. DeHayes, the Ohio association's executive vice president, in the absence of company officials; Oakwood Mutual Telephone Co., accepted by Guy Carnahan, manager, and Ohio Telephone Service Co., Greenville, accepted by H. F. Clapper, division commercial manager.

Ohio convention banquet entertainment took the form of an "Arabian Nights Saturnalia" hospitality party. Members of the hospitality committee, shown here greeting guests with a salaam, included (left to right) James I. Hunt, Home Telephone Co. of Middlefield; Ronald Taylor, Elyria Telephone Co., and Joseph R. Yeager, Telephone Services, Inc. of Lima.

17 No-Accident Awards

The second category, the 100 per cent awards, was presented to 17 companies which had no accidents during 1961. This 100 per cent group included Ashtabula Telephone Co.; Bascom Mutual Telephone Co.; Camden Rural Telephone Co.; Centerville Telephone Co.; Jacobsburg; Conneaut Telephone Co.; Elyria Telephone Co.; Fayetteville Telephone Co.; Minford Telephone Co.; New Bavaria Mutual Telephone Co.; New Knoxville Telephone Co.; Nova Telephone Co.; Oakwood Mutual Telephone Co.; Ohio Telephone Service Co., Greenville; Orwell Telephone Co.; Ottoville Mutual Telephone Co.; Ridgeville Telephone Co., and Sycamore Telephone Co.

In a humorous change of pace, Hammond Fowler, member of the Tennessee Public Service Commission, spoke

(Continued on page 53)

NAM MATERIALS

Concluded from page 19

power practices; wasteful government spending; the effect of taxation on profits and faster economic growth.

Titles are:

They All Want Your Job.

The Law's Fair-Haired Darling.

The Money They Spend is Yours.

Are Profits Too High?

Let's Get Growing.

Price of both series is $15.00 per 100 sets of five folders.

Less than 100 sets are 25 cents per set.

The Industry and the American Economy series, mentioned for high school students, are also available for management's use. A slip-cased set is furnished at $1.00 for the set of 11. Individual booklet cost 10 cents each.

Reprints Available

We believe this article on teaching economics will be interesting to everyone in the telephone industry. Therefore, if we receive a sufficient number of requests, we shall make reprints available. You probably will want others to read the story—perhaps both your employes and members of school boards where you live. The price will be as low as we can make it—cost plus postage.

The NAM Economical Education Program is ideal for use of telephone companies in fostering the teaching of economics and private enterprise in their local schools and in broadening educational and training programs for their employes.

Further information on all these materials may be obtained from the National Association of Manufacturers, Member Relations Division, 2 E. 48th St., New York 17, N. Y.

J. R. Peterson Retires From S. W. Bell; Succeeded by Hunt

J. R. Peterson, vice president—personnel of Southwestern Bell Telephone Co., retired on May 1 at his own request after 42 years service.

He will be succeeded by Frederick B. Hunt who is vice president and general manager of the company's Missouri-Illinois area.

W. Earl Fisher, assistant vice president-operations, will replace Mr. Hunt and he will be succeeded by Louis C. Bailey who is general traffic manager in Missouri-Illinois. William G. Hoffman, assistant vice president—personnel, will become Missouri-Illinois general traffic manager.

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No. 1959-AR—same as climber shown above but with triangular ring at ankle.

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Courts and Commissions

Missouri Commission Okays Reduced Rate Increase

The Missouri Public Service Commission recently denied the full $397,000 annual rate increase requested by General Telephone Co. of Missouri. (TELEPHONY, Sept. 23, 1961). Instead, the PSC authorized the company to set rates designed to raise annual revenues by $161,000. The new rates became effective May 1.

The commission also granted the company the right to make a separate charge on monthly bills to cover the cost of municipal gross receipts taxes in those communities which levy such a tax. That will free the company from an estimated $63,120 in annual operating costs, making the total revenue boost $224,120 a year, the commission stated.

General operates 33 exchanges in 117 communities in Missouri. It received its last rate increase July 21, 1959.

The commission denied General's request for a change in its charge for colored telephone instruments. The present tariff is a flat charge of $10 for any colored instrument. The company wanted to abandon that and make a permanent monthly charge of 25 cents.

The commission said that change could only be made if the company agreed to limit the 25-cent monthly charge to 40 months.

General requested the increase last year, complaining it had never realized the rate of return authorized by the commission in the 1959 rate increase and its rate of return has continued to decline.

The company stated that increased labor costs, taxes and other costs had caused the decline.

Only the cities of Columbia and Ashland opposed the increase, alleging that the company operated illegally by keeping its records outside of Missouri (TELEPHONY, Oct. 14, 1961).

Still not decided by the commission is whether the company can continue to keep its records and books in Grinnell, Ia., where it shares offices with other General companies operating in Iowa and Nebraska.

The company figured its plant's fair value at $12,068,455 for rate making purposes. But the commission set fair value at $11,612,043. The rate increase allowed, the PSC said, would give the company a new rate of return of 5.75 per cent.

"While the commission is of the opinion that the applicant is in need of rate relief," the decision said, "it finds that the rates herein proposed by the applicant would yield more revenue than the commission deems necessary and appropriate."

The allowed increase "should result in a net operating income of $667,334 after eliminating from expense municipal gross receipts, license or franchise taxes and after deducting state and federal income taxes and uncollectible revenues."

The decision said "the commission is also of the opinion and finds that the (authorized) rates should produce average, fair and reasonable earnings for a future period and enable the applicant to have sufficient revenue to pay operating and other expenses, maintain its credit, attract capital, provide for reasonable dividends and additions to surplus."

The commission approved the grouping of exchanges proposed by the company.

Avalon Offers 51% Shares In Exchange with Bell

More than 51 per cent of the outstanding ordinary shares and share purchase warrants of The Avalon Telephone Co., Ltd., Avondale, Newfoundland, were deposited with the Montreal Trust Co. in response to an offer by The Bell Telephone Co. of Canada to exchange two Bell shares for seven Avalon shares, the Bell company announced on Apr. 19.

Certificates for Bell shares were to be forwarded within a few days to those Avalon shareholders who had already accepted the offer.

The remaining ordinary shares of the Avalon company are to be accepted by the Montreal Trust Co. in accordance with the terms of the Bell offer up to the close of business on May 25. Delivery of the Bell shares will be made a few days after deposit of Avalon shares.

A prospectus offering 149,176 new shares of the Bell company's capital stock, to be used to acquire 522,118 ordinary shares of Avalon was approved by the Bell Telephone directors on Mar. 28. The Board of Transport Commissioners for Canada had approved the company's application to issue the required number of shares for the purposes of this offer on Mar. 27.

Bell announced also that application was made to the Board of Transport Commissioners for Canada by Bell of Canada for approval to issue capital stock, not exceeding 150,000 shares.

The new issue of capital stock was requested in order that the Bell Company may fulfill its offer to shareholders of the Avalon Telephone Co. of two shares of Bell stock for each seven shares of Avalon.

The issuance of these shares requiring the approval of the board, was considered at a Mar. 26 hearing.

As of Mar. 2, the Bell company had 23,805,112 shares of capital stock issued and outstanding.

PT&T Proposed Consolidation For EAS Protested in Cal.

The California Public Utilities Commission has set a hearing in July on a proposed consolidation of six local exchanges by the Pacific Telephone & Telegraph Co., to provide extended area service between the new areas.

The managements of three Independent operating companies, the Roseville Telephone Co., the Colfax Telephone Exchange, and the Foresthill Telephone Co., are protesting the PT&T move on the ground that they would be forced to provide EAS because of being adjacent to the areas to be covered by the consolidation.

Pacific Telephone's plan calls for the consolidation of Penryn, Loomis, Newcastle, and Rocklin into a new South Placer exchange, and Auburn and Applegate exchanges into the Auburn exchange.

The managers of the three Independent companies said they are not op-

posed to extended area service, but to Pacific Telephone's way of presenting the service in the area. They said the exchanges involved in the consolidation should be made to stand on their own feet as the Independent companies do, and their subscribers should pay for the EAS, instead of the new exchange areas being subsidized from larger PT&T areas.

Robert Doyle, manager of the Roseville Telephone Co., contended the Bell move would force the Independent companies to provide EAS to the areas in question, since the Independents are adjacent to the two proposed consolidated exchanges, Roseville on the south, Colfax on the north, and Forest hill on the east.

"If PT&T eliminates the toll charges between the proposed new exchanges, it will have to get back revenues by raising basic monthly rates. If we have to do this, PT&T should," said Mr. Doyle.

Chester Gibbs, manager of the Colfax Telephone Co., said that if PT&T were allowed to proceed with the proposed consolidation it would "actually wreck" the Independents. He charged that PT&T's methods of presenting proposed rates wrecks rate making.

Ralph Hooper, manager of Foresthill Telephone Co. Inc., said his company is not directly affected by the proposed plan now, but his subscribers would demand extended service, once the service were granted between the two proposed exchanges. He said 50 per cent of the revenues for Foresthill come from toll calls to Auburn.

Chester Stone, Auburn manager for PT&T, stated his company's first obligation is to serve its subscribers and the lower the basic exchange rates are kept, the more people can afford to have telephones. He added that it would not be reasonable to have small seven-square-mile rate areas in a future "strip city" from Sacramento to Colfax.

Trans-Continental Buys Dumas, Tex., Company

Thomas L. Anderson, president of Trans-Continental Telephone & Electronics, Inc., of Dallas, Tex., has announced that the company has acquired all the outstanding stock of North Plains Telephone Company, Inc. of Dumas, Tex. The North Plains company furnishes telephone service for 4,500 subscribers in the cities of Dumas and Sunray, and in the communities of Cactus, Etter and Bell Plains.

With the addition of North Plains, Trans-Continental now has four operating companies, the others being

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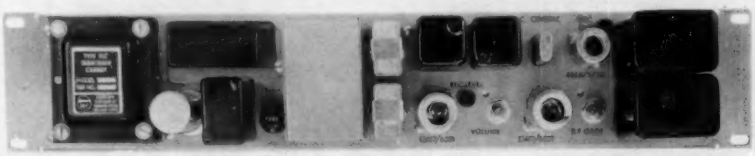

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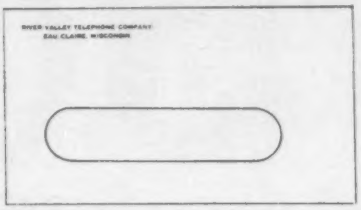

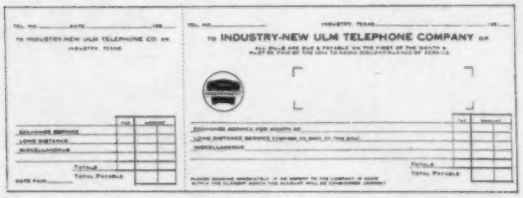

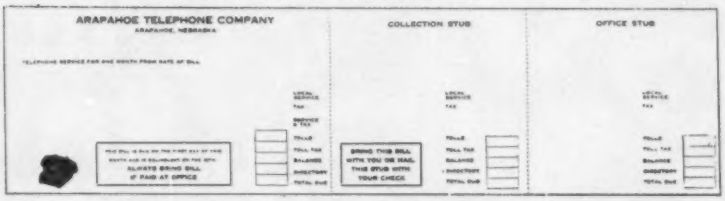

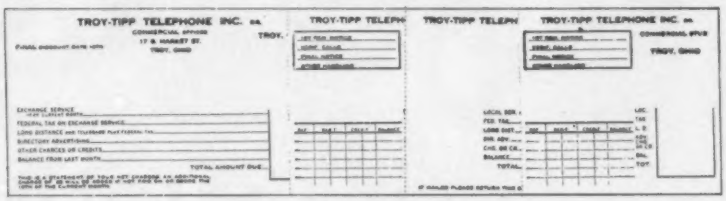

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Nortex Telephone Co., Hawkins-Big Sandy Telephone Co. and Centex Telephone Co. The total subscribers in all operating companies owned by Trans-Continental is between 10,000 and 11,000.

Indiana Commission Receives Petitions, Authorizes Sales

The Citizens Telephone Co., Decatur, has petitioned the Indiana Public Service Commission for permission to purchase stock of the Adams-Wells Telephone Co. and to purchase assets of the Preble Telephone Co. and to consolidate the Preble and Adams-Wells companies.

•

General Telephone Co. of Indiana and Citizens Mutual Telephone Co. of Cory, Inc., have filed a joint petition for the General company to purchase the Citizens Mutual company.

•

The Indiana Public Service Commission has authorized the Westphalia Mutual Telephone Co., Inc., to sell to the Daviess-Martin County Rural Telephone Corp. (TELEPHONY, Jan. 6).

•

General Telephone Co. of Indiana was authorized to purchase the Union Telephone Co. (TELEPHONY, Feb. 3).

•

New York Commission Denies Rate Increase

The New York Public Service Commission has denied the proposal of Western Counties Telephone Corp. to increase rates to subscribers of its Marathon division by an estimated $8,500 annually.

The decision was based on a determination that the company had failed to prove the necessity for the additional revenue it sought. The commission observed also that rates to Marathon subscribers are now higher than those charged in other company divisions and that its proposed new higher Marathon rates, "if allowed to become effective, would tend to increase the spread between the rates in the several divisions. Justification for doing so was not established."

Authorize Loan, Revised Rates for Dial in Neb.

The Nebraska Railway Commission on Apr. 19 authorized the Herman Telephone Co. to borrow up to $46,925 from the Kellogg Credit Corp.

The commission also approved a revised schedule of rates to become effective when the Herman system is cut over to dial service.

Issue NARUC Fall Rate Book For Bell, Independents

The National Association of Railroad & Utilities Commissioners (NARUC) telephone rates subcommittee on communications problems has published in booklet form a just completed "Compilation of Message Toll Telephone Rates" for two-point service of the Bell System.

The booklet contains a separate schedule of rates for each state (intrastate), and one schedule for interstate. Each schedule shows an airline mileage scale; station-to-station rates; person-to-person rates separated by day, night and Sunday; and initial and overtime rates in effect on Nov. 1, 1961.

These rates apply also to connections between Bell System and Independent companies.

The 68-page booklet is priced at $1.00, and may be obtained from: National Association of Railroad & Utilities Commissioners, 5310 I.C.C. Building, P. O. Box 684, Washington 4, D.C.

Name Moede Vice President Of Wisconsin Telephone Co.

Gustave H. Moede Jr. has been elected personnel vice president of the Wisconsin Telephone Co. He succeeds Hamilton E. Loving who has resigned to take a management position abroad with the state department's agency for international development.

Moede formerly was administrator of new product planning in the marketing department of American Telephone & Telegraph Co. in New York. Before that he was assistant vice president for operations at Wisconsin Telephone Co.

Italy Orders Satellite Ground Equipment

The Italian Space Communications Agency TELESPAZIO recently placed an order with Marelli Lenkurt of Italy, a subsidiary of General Telephone & Electronics International, Inc., for satellite ground terminal equipment to be used in conjunction with the Bell System's Telstar and other U. S. relay communications satellite projects. These experimental satellites are expected to be launched from Cape Canaveral, Fla., in the Spring and Fall of 1962.

The equipment to be supplied by Marelli Lenkurt includes parametric amplifiers that are the result of technical cooperation between Marelli Lenkurt and General Telephone & Electronics Laboratories. The apparatus will also include a new Marelli Lenkurt microwave development, a radio relay system capable of accommodating 2,700 telephone channels.

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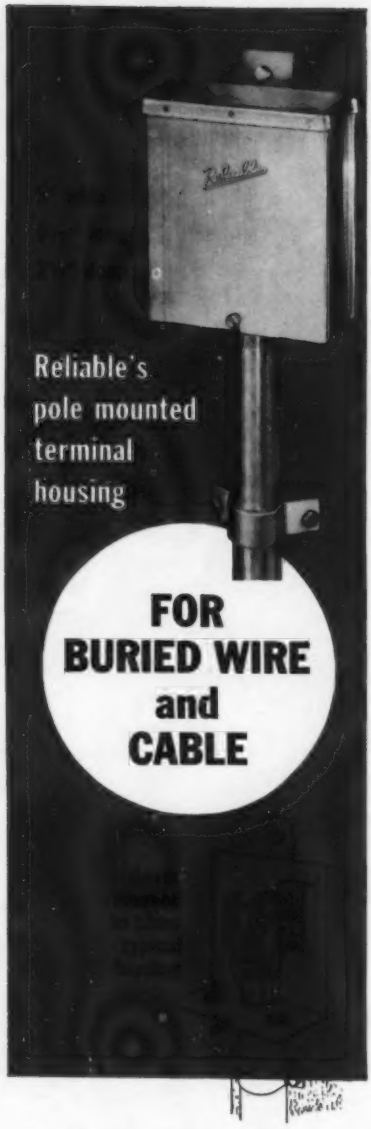

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EDUCATIONAL TELEVISION FIELD

Continued from page 24

tion systems, and (2) interexchange systems. A *local distribution system* consists of one to six channels within an exchange area between a signal source and receiving locations, but may include facilities to provide service to a receiving area where the airline distance does not exceed 25 miles.

An *interexchange system* consists of one to five channels between a signal source in one exchange area and a receiving location in another exchange area where the distance between the signal source and its receiving location exceeds 25 airline miles.

Channels are furnished in systems of one or more, each channel equipped for the transmission of the video and audio material of a single monochrome TV program, between the premises of the customer and authorized users, in one direction of transmission from signal source to receiving location and may not be used in any other direction of transmission. Special operation and supervision are not furnished. Systems are furnished 24 hours per day, seven days per week for a minimum period of one month.

Customer Facilities and Interconnection. Station facilities are furnished by the customer and would include video cameras, microphones, consoles, monitors and like studio equipment, the television viewers and antennas to pick up any broadcast material.

The tariff also provides for interconnection. The customer may interconnect at his premises channels secured under this tariff with, among other things, TV channels operating on broadcast frequencies as well as local and interexchange educational television distribution systems provided by the customer. These connections may be made provided they are made at locations where program material is used for TV viewing, or transmission over educational facilities, and where the customer has adequate personnel and equipment for testing with the telephone company, provided that the customer's facilities work satisfactorily with the telephone company channels, and provided that the telephone company's responsibility for transmission is limited to the channel facilities it furnishes.

A Rate Example from the Tariff. Rates are based on local channels on the same premises, local channels to separate premises, interexchange channels, channel input and output equipment, outlets and certain additional arrangements. As an example of the scale used the monthly rate for the first local distribution channel between separate premises is $15 per quarter mile per-month, the second channel is $5.00 the third and fourth $3.00 each and the fifth and sixth $2.00 each with a minimum charge of $15.

How ETV Systems Operate

The studio facilities required for the originating of educational material are, for the most part, identical whether the broadcast or closed-circuit method is used. In fact a single studio could furnish the same material to both types simultaneously. There will be a need for facilities for "live" programming under p actically all circumstances.

However, the use of viedo tape will probably be the mainstay of this service. It permits the retention and repeated showing of essential basic instruction and is easily edited for maximum accuracy and effectiveness of program material. It can be readily transported between studio facilities so that original presentations by the nation's outstanding experts in their fields can be made available to all at times most convenient to the local system's schedule. Finally, "living history" such as the orbital flight of Colonel Glenn can be repeated for succeeding classes and viewers.

Reception facilities vary somewhat between the broadcast and the closed-circuit ETV systems. In the broadcast ETV method, a conventional VHF and/or UHF TV receiver is used. This receiver must have a receiving antenna system and the more marginal the received signal the more complex and efficient the antenna system required, including height of the antenna structure. In the closed-circuit ETV method all viewers, while they are essentially the same as TV receivers, receive the same signal level from the distribution system. This, in part, accounts for the more uniformly dependable programming in a closed-circuit system.

The telephone company's prime interest and the extent of its participation in the ETV field are found in the method of distribution. The studio and viewing facilities will almost invariably be customer or privately owned.

Distribution Facilities in the Broadcast System. Consider first the distribution in the broadcast ETV method. A radio transmitter generating video and audio signals (TV as we popularly call it) sends the studio material through the atmosphere to the receiver. This equipment is customer owned. In a single station system, telephone company service is likely to be limited to studio-to-transmitter and local pro-

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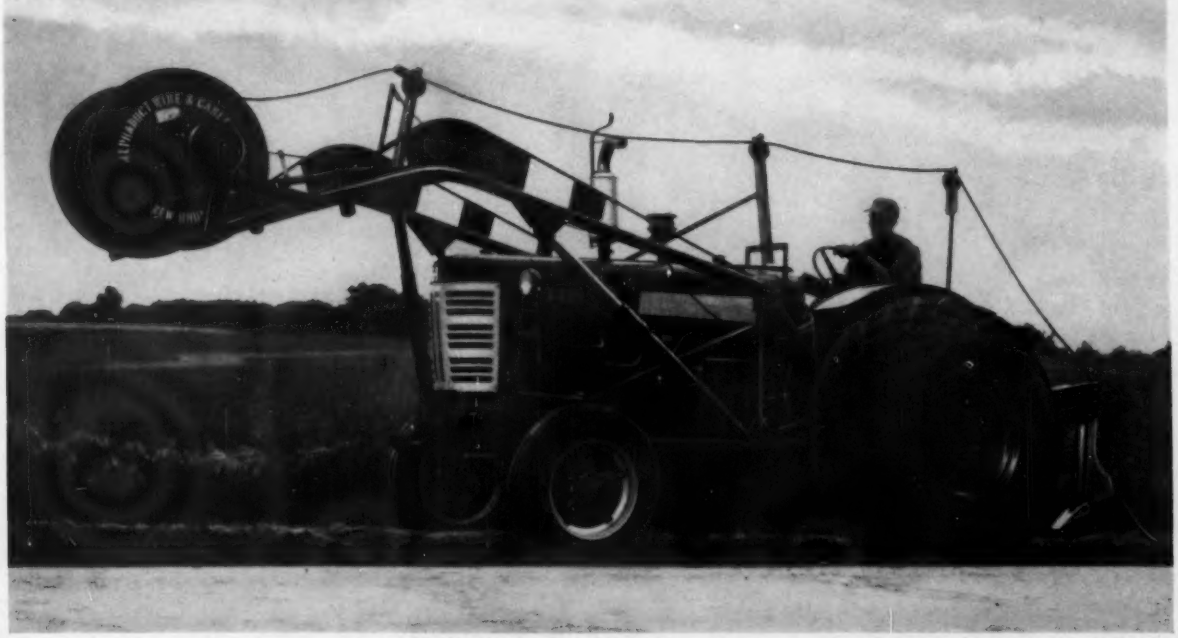

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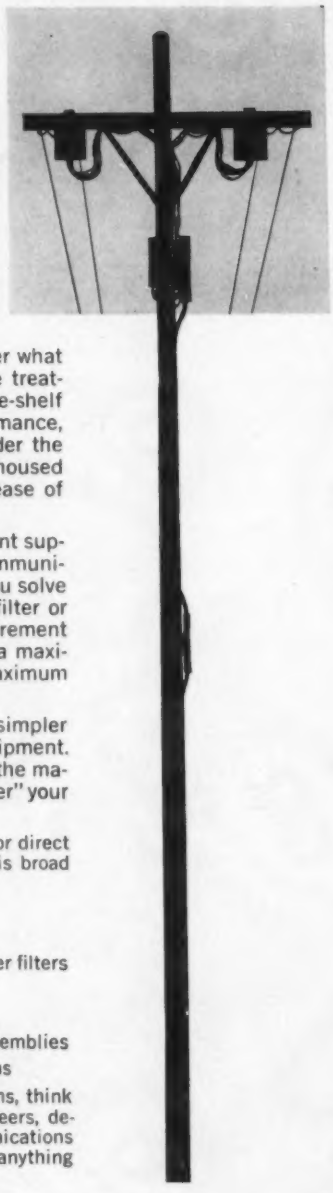

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gram channel facilities when furnished by wire or cable. Provisions exist in the FCC rules which would permit the ETV broadcaster to own his own equipment for this purpose if it could be accomplished by the use of radio frequencies.

In multi-station broadcast ETV operation, there is an added requirement for the interconnection of stations which, in most instances, requires the use of intercity circuits of some type. These circuits can be furnished by the telephone industry by coaxial cable or by microwave facilities. Again, provisions in the FCC rules make it possible for the ETV agency, itself, to own and operate intercity microwave facilities. In the bills before Congress, the funds proposed could be used for the microwave equipment necessary to interconnect the stations used for ETV broadcasting.

In summary, then, in the broadcast ETV system, the telephone industry might be called upon for studio-to-transmitter, local pickup and intercity circuits but it would also be possible for the potential customer, the ETV agency, to own and operate the entire system.

Distribution Facilities in the Closed-circuit System. In the closed-circuit ETV method, local distribution is made by coaxial cable to which the viewers are connected. Where only one building or an on-campus situation exists, the ETV agency may own the cable facility or it may obtain service from the telephone company. Where local distribution to scattered locations within a school district or city is considered, the telephone company facility is the usual method.

The interconnection of several local systems with a central programming source normally calls for intercity facilities. These can be supplied by the telephone industry through the use of coaxial cable or microwaves. A word of caution is indicated here. In 1960, the FCC adopted an amendment to Part 11 of its Rules and Regulations governing the Industrial Radio Services and, under Subpart L - Business Radio Service, makes the frequency band 6575-6875 Mc available "for intercity closed-circuit television systems. Such authorizations will be granted on a case by case basis, and applicants must furnish complete and specific factual data showing wherein, apart from economic considerations, it is not feasible to utilize frequencies above 10,550 Mc for such operations." The applicant in this instance, and any applicants for 10,550 Mc, would be the potential customer, the ETV agency.

The language of both bills before Congress would appear to prohibit the authorization of any funds for the con-

struction of microwave facilities if they were to be used in connection with closed-circuit ETV operations only.

The REA and ETV

With an increasing use of ETV to combat teacher shortages and to improve uniformly the quality of teaching, more of the nation's rural areas will be brought into the program. Thus telephone companies which have obtained financing through the Rural Electrification Administration will turn to that agency for such financial assistance as they may need in the furnishing of service to the ETV field.

Late in 1961, such a request was explored with the REA in connection with the proposed furnishing of closed-circuit facilities which would be a part of the South Carolina program. A review and interpretation of the language used in the applicable sections of the Rural Electrification Act resulted in a determination by the REA that it did not possess authority to make loans covering facilities to be used for closed-circuit ETV purposes.

Thus, Section 203 (a) of the act reads, "the term 'telephone service' shall be deemed to mean any communications service *whereby voice communication* through the use of electricity between the transmitting and receiving apparatus *is the principal intended use thereof,*" etc.

To correct this situation Congressman Poage introduced H. R. 10708 in the House of Representatives on Mar. 13, 1962. This bill would broaden the term "telephone service" to mean "any communication service *for the transmission of voice, sounds, signals, pictures, writing or signs of all kinds* through the use of electricity between the transmitting and receiving apparatus," etc. (Use of italics indicates changed language.) The restrictive phrase, "principal intended use thereof," would be omitted in this amended version.

This amendment, if adopted, will apparently clear the air regarding REA authority to make loans for closed-circuit ETV. It goes far beyond this. It seems likely that the broadened definition would cover any type of video transmission facility supplied for broadcast ETV, commercial television circuitry, and a number of other forms of communications service much more sophisticated than voice communication, including facsimile and data transmission.

A similar bill, S. 3001, was introduced in the Senate by Senator Hill of Alabama. At the time of this writing the Senate bill was in committee. The House bill had been considered by the

(Continued on page 50)

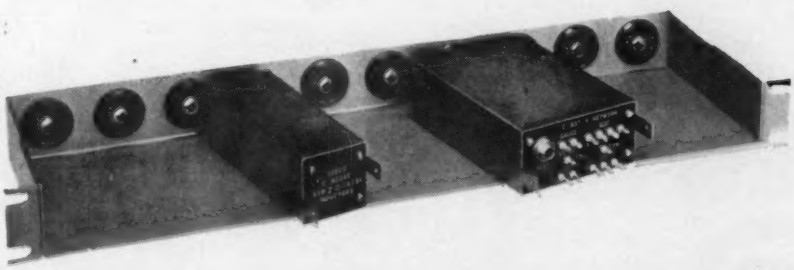
Now, available from stock!

CEECO

Impedance Compensators for T.W.X. Mechanization

C-1613A FOR NON LOADED CABLE

C-837A FOR LOADED CABLE



PLUG-IN FEATURE ALLOWS PRE-WIRING AND EXPANSION

10—C-601AI CASES (20—C-1613A UNITS)

OR 5—C-837A NETWORKS PLUG INTO A

1-¾" x 19" SHELF

INSTRUCTIONS FOR TWX LOOP VERIFICATION

TESTS INCLUDED WITH EACH ORDER.

SOLD THROUGH YOUR TELEPHONE SUPPLIER.

COMMUNICATION EQUIPMENT & ENGINEERING COMPANY

5646 West Race Avenue • Chicago 44, Illinois

Phone EStebrook 8-3109

Private Space Communications Urged by GT&E Executive

PRIVATE OWNERSHIP of a proposed world-wide communications system which will use satellites in outer space as relay stations was advocated on April 24 by an official of General Telephone & Electronics Corp.

In the keynote luncheon address before the Space Law and Sociology Conference of the American Rocket Society in New York City, Theodore F. Brophy, GT&E vice president and general counsel, also urged that top priority be given to determining broad outlines of the ownership, operation, and control of the global satellite system.

He pointed out that broad solution of these problems at this time would expedite selection of the type of satellite system, and that solution of various detailed legal and administrative matters could then be readily resolved without delaying implementation of the system.

"Private enterprise has given the United States a communications system second to none in the world," Mr. Brophy stated. "There is no reason to believe that a government monopoly, which will not pay taxes and will not have a profit incentive, can do a better job than private enterprise."

The GT&E official said that "the technical and operating know-how of the U.S. communications common carriers must be marshalled if an operational satellite communications system is to be attained at the earliest practicable date".

Pointing out that the demand for international communications services is growing rapidly due to steadily increasing population, expansion of world trade, and the development of new countries, Mr. Brophy stated that "new and expanded service must be provided to all points of the globe, including service to points not now served and over routes where service is not currently profitable because of comparatively light traffic volumes".

Commenting on "the world's insatiable appetite for communications", the GT&E official said that international telephone calls, including voice, data, and other services, are estimated to be increasing at the rate of 20 per cent annually, which would result in a total of 20 million calls by 1970 and 100 million by 1980, in contrast to about 4.3 million in 1961. He pointed out that these estimates do not take into account the potential demand for international television broadcasting, which would further increase the need for new and expanded facilities.

Although traffic to and from North America currently represents about 80 per cent of the world total, an increasingly greater proportion of the world's communications traffic will neither originate nor terminate in the United States, as the new and developing nations move forward, Mr. Brophy predicted.

Especially strong attention should be paid to the question of how ownership of the U. S. portion of the system can be structured to justify investment by existing communications companies, he urged. "Maximum flexibility in corporate, tax, and regulatory structure must be provided so that this new concept may mature to maximum realization, taking advantage of the resources of knowledge and experience we have available today in our stockholder-owned, government-regulated communications common carriers," Mr. Brophy declared.

Plan Asia-Japan Cable

Delegates from nine Asian nations and the United States met Apr. 24 in Tokyo to discuss plans for laying a communications cable linking Southeast Asia with Japan. The total cost is estimated at more than 83 million dollars.

Government Offers Two Interesting Publications

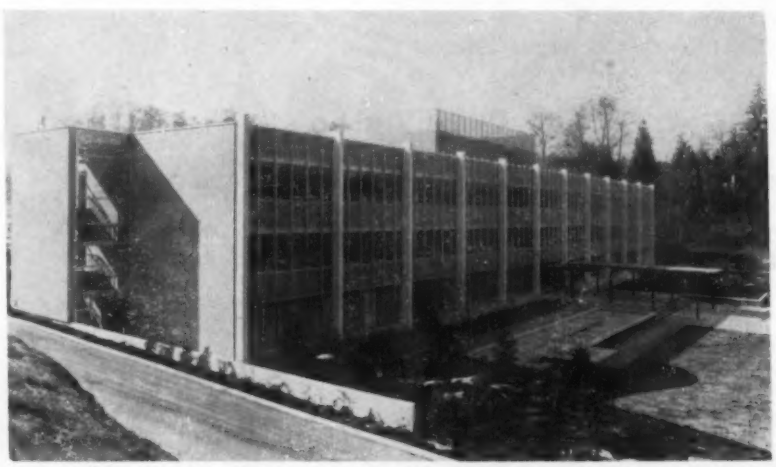
A report called *Communications Satellites: Technical, Economic, and International Developments* is available from the U.S. Government Printing Office for $1. The report provides background for the immediate congressional consideration of the issues relating to government-industry development of communication satellites. It catalogs and describes some of the recent technical, economic, and international developments in this area and identifies some of the issues that will be of interest to the Congress and to the public. Catalog No. Y 4.Ae 8:C 73.

•

A 31-page bulletin called *Accounting System Requirements for Telephone Borrowers of the Rural Electrification Administration, Effective January 1, 1962*, has been prepared by the REA for telephone borrowers in installing and maintaining their accounting systems and records. It describes accounts supplementing those required by Federal Communications Commission or by state agencies and which will provide adequate information on the borrowers's financial operations for the use of REA and borrower management and accounting personnel. Price 25 cents. Catalog No. A 68.3:461-1.

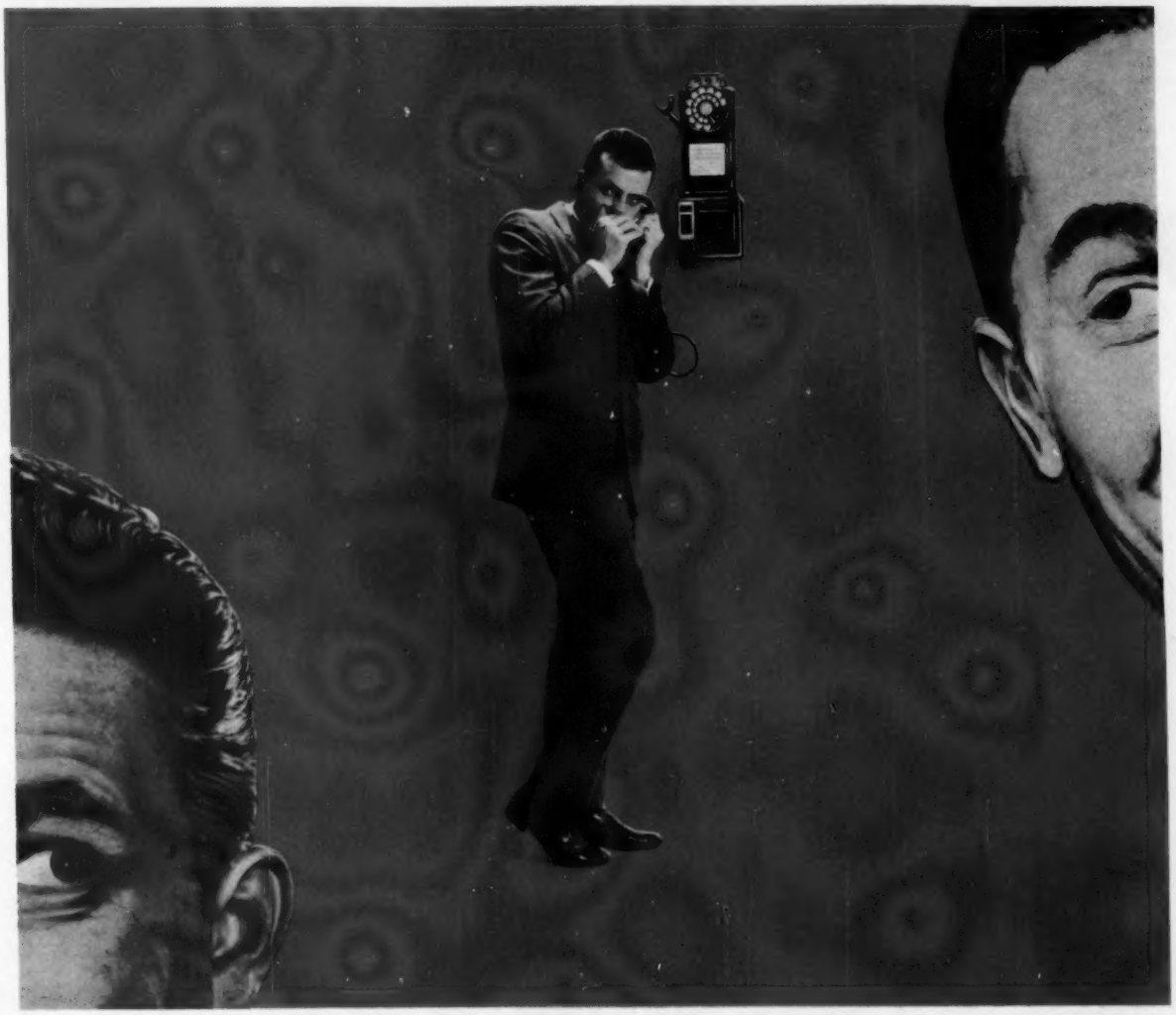
Basic PR

"Be courteous—treat the other fellow as though he is as important as he thinks he is."—MRS. GARY HIOTT, Pickens (S. C.) *Sentinel*.



New general office building for West Coast Telephone Co., Everett, Wash., dedicated recently. Among those present for the ribbon-cutting ceremonies were: Russell J. Loveland, president of West Coast company; C. H. Loveland, chairman of the board; L. Gray Beck, vice president and general manager, whose office is located in the 2-million-dollar structure; Francis Pearson, Chairman of the Washington Utilities & Transportation Commission; and Everett's Mayor, George W. Gebert. New building, on seven-acre site, centralizes administrative facilities and incorporates flexibility of design to accommodate future expansion and change.

because a phone call is a private affair



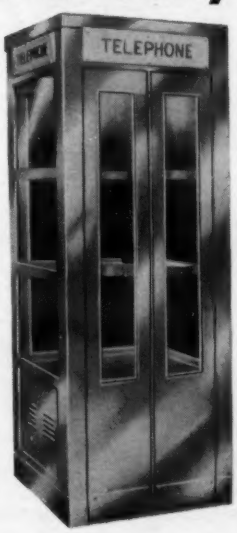
folks naturally favor fully enclosed booths

What is there about an open paystation that makes a caller act guilty?

He cups his free hand over the mouthpiece. Keeps his voice down to a stealthy whisper. Glances furtively around to see if he's being overheard. All the actions of one who is desperately trying to cover up a shameful situation.

It's a well-researched fact that most folk will by-pass an open paystation rather than risk being overheard. That's one reason, in fact, why enclosed phone booths came into being.

And when it comes to fully enclosed phone booths, Sherron steel booths are especially favored. Not only for the complete privacy they afford. Nor just for their acoustic efficiency. But just as much for their trim, clean commanding good looks . . . and comfort.



All in all, the enclosed phone booth offers the patron the advantages that add up to greater paystation revenue.

There's a Sherron booth for every location and budget in "gold," stainless steel or cold rolled steel.

SEE OUR CATALOG IN SWEET'S

INDEPENDENT

ACOUSTIC SEE-THRU

SHERRON METALLIC CORP.

1201 FLUSHING AVENUE, BROOKLYN 37, N. Y.

ETV FIELD

Continued from page 47

Agriculture Committee and, on Mar. 22, 1962, reported to the House without amendment.

Industry's Part in the Picture

It appears to me we are here considering two broad programs which occasionally overlap—adult or continuing education as one part of our national objective and improved formal classroom training as another. As I have indicated, I believe the broadcast ETV method best meets the continuing education need and closed-circuit ETV the formal classroom training. Neither system, however, can be reserved to only its best use.

Thus, broadcast ETV can, within its limitations of service area and frequency allocation, furnish much service to the formal classroom program. In a like manner, closed-circuit ETV facilities could be programmed during evening hours to aid "night school" training and the worker retraining programs now under consideration by our government.

Service for Both Systems. In the Independent telephone industry, we are apt to feel the impact of both approaches. We may be called upon to furnish the normal auxiliary services required by broadcasting—the studio-to-transmitter and interexchange network facilities. We may also be called upon to furnish the local and interexchange coaxial cable facilities for closed-circuit operation.

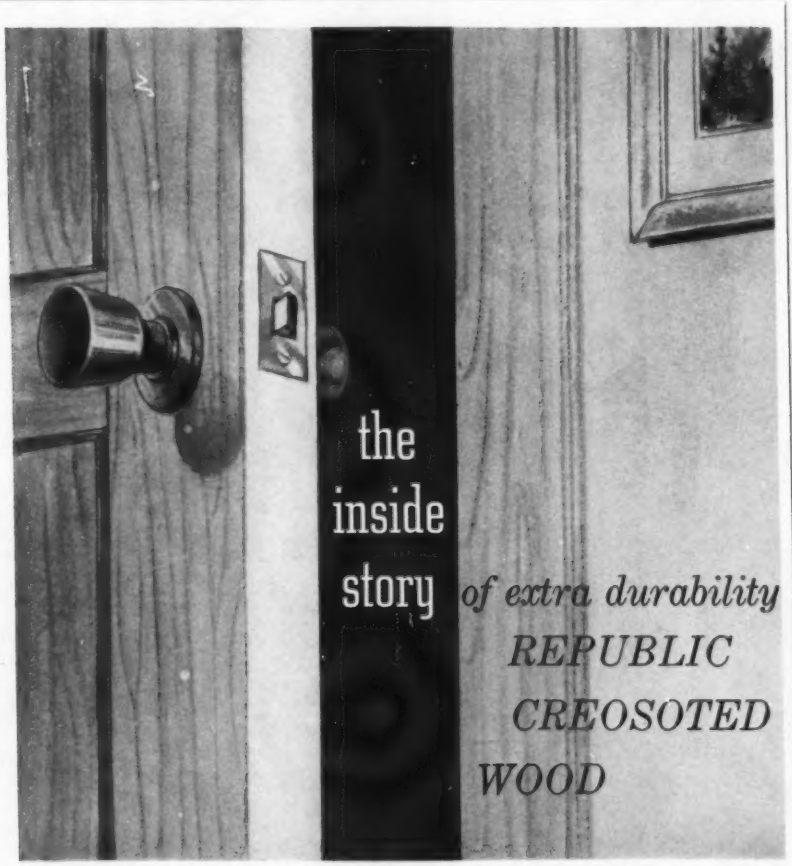
As has been pointed out, the congressional approach has been to foster the broadcast ETV method through federal grants for this purpose. Right now, we seem to be waiting only to find out how much, when, and to whom. It seems safe to assume there will be early activity in the progress of this method and many states will expand their programs and attempt to reach the greatest percentage of the rural area possible by broadcast systems.

However, the shortage of teachers, and the deficiency in quality of teaching, will be most acutely felt in the more rural areas for some time to come. To meet these critical deficiencies, many states may turn to closed circuit ETV systems whether federal grants are available or not. If we accept the figures presented in congressional debate, and the survey figures of the state of South Carolina as indicators, then multi-channel closed-circuit facilities may be the most economical. Multi-channel programming will certainly be needed to combat these shortages.

Investment, Rates, Territorial Integrity. The initial investment in closed-circuit facilities is not likely to be modest if maximum service to the schools in any school district is proposed. However, this type of service is one which the telephone company common carriers are best able to furnish and maintain at the levels of dependability needed for most effective instruction. It is, from the traditional telephone view, a unique service for a telephone company to offer. Once installed, however, closed-circuit ETV systems should be long-term operations.

The rate structure developed by telephone companies for educational TV services should be carefully worked out. It appears they will have to be competitive to some degree. The customer has many avenues of approach to the problem. There exists the basic choice between broadcast and closed-circuit ETV. In addition he has wide latitude in the choice of facilities to be owned or leased. The present AT&T tariff filing with the FCC permits the interconnection of customer channels with telephone company furnished educational TV channels.

Moreover, our companies should



Republic pressure-creosoting adds protection to railroad ties and switch ties... piles, utility poles and crossarms... at low cost. Five plants to serve you.

Republic CREOSOTED PRODUCTS

REPUBLIC CREOSOTING COMPANY

DIVISION OF REILLY TAR & CHEMICAL CORPORATION

MERCHANTS BANK BUILDING · INDIANAPOLIS 4, INDIANA

seriously consider furnishing this service, even if marginal, to protect the integrity of their operations as communications common carriers. It is quite obvious that our potential customers are in a position to meet many of their service needs through the installation of their own facilities (which could duplicate existing or planned telephone facilities).

Not so obvious is a possible invasion of this area of service by specialized radio common carriers or private business enterprise. In the Community Antenna TV field (CATV), we have already witnessed the licensing by the FCC of specialized radio communications common carriers in the 6000 Mc microwave region. Unbiased thinking should indicate that if ETV can help resolve the serious educational problem confronting our nation, then ways will be found to use either or both methods to the maximum.

The greatest cost variables take place when considering the method of distribution. Here is where care should be taken to make sure the most accurate comparisons possible are made. A broadcast station can distribute only one program at a time. Present closed-circuit facilities can handle six simultaneous programs locally and five on intercity circuits. Whenever multi-channel operation is being considered, multiple broadcast station installations should also be included for proper comparisons.

Experts in the field of radio transmission will be presenting facts and figures supporting the use of broadcast facilities. As an expert in the broad field of communications, the telephone company can provide much assistance to educators so they may be able to evaluate the community's needs in this specialized area of communications and secure as much service-per-dollar as possible for the taxpayer.

In summary, we would suggest that Independent telephone companies survey this field and its possible impact upon them in some depth. How extensive would be the service problem to schools in your area? What will be the minimum needs of these schools? What plans are under study by your local, county or state educators? Will broadcast ETV meet these plans or will closed-circuit ETV be used?

Miss. Anti-Profanity Law

The Mississippi House of Representatives on Apr. 22 voted to authorize $10,000 fines and five-year prison sentences against persons who curse on the telephone.

Western Electric and Kellogg

Hi Folks!
Here are some of our guaranteed rebuilt instruments that look and operate like new. Also, our New Test Set. Drop me a line for quotes and our catalog.

No. 500 TELEPHONES

Wall or Desk Models

Factory Reconditioned Instruments equivalent to New with a full Guarantee and Refund Privilege. New Black Cases, Cords, and many new-surplus parts, including Cycle Ringers now available. Shipped 10 per carton, and we pay the freight to your door on an order of 20 or more.

PRICE $14.50—Dial Blank; or with Dial, Less Ringer (install your cycle)
PRICE $17.50—With Dial and Straight Line Ringer
PRICE $19.50—With Dial and Cycle Ringer—Harmonic, Synchromonic, Decimonic

BECO'S #1011 RUBBER TEST SET

LOOK NEW!!

Equipped with a Standard W.E. Dial and Components, Nylon Cord, Piercing Test Clips and Special Belt Snap. Rugged and Dependable.

PRICE $27.50

W. E. 354 WALL and W. E. 302 DESK TELEPHONES

Self-Contained Sets with the appearance and operation of a new unit, equipped with Straight Line Ringer, or most Cycles can be supplied.

PRICE $10.50—Dial Blank C.B.
PRICE $12.50—With Met. Dial

LATE COMPACT MAGNETO TELEPHONES

Stromberg-Carlson, Leich and Kellogg

We have a limited quantity of these late strong alnico generator type sets for those long rural lines. Reconditioned and ready to go. (Please state second choice.)

PRICE $17.50

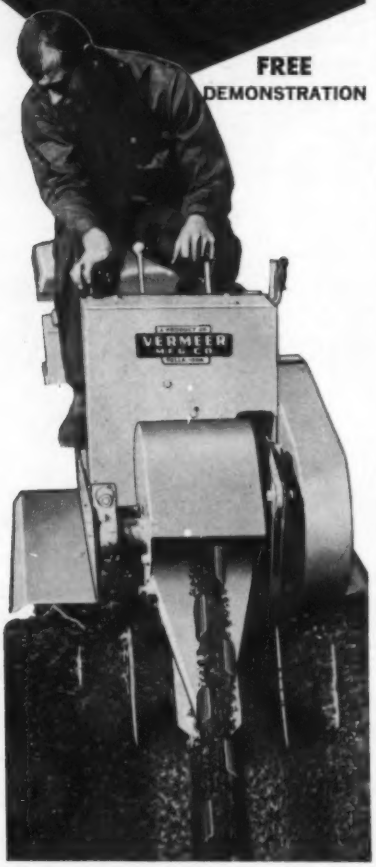
BOHNSACK EQUIPMENT CO.

Germantown, New York **LEhigh 7-6213**

NEW Vermeer W-1
POW-R DITCHER

More Rugged! More Powerful!
Lowest Operating Cost!

FREE
DEMONSTRATION



DIGS DOWN TO 40" DEEP
—UP TO 10' PER MINUTE

The new, powerful Vermeer W-1 Pow-R Ditcher . . . a low cost, small trencher that can really take it—and really put out the dirt! All new from end to end, the W-1 features all-hydraulic ground travel regardless of digging or transport speeds. Hydraulically operated boom. A rugged low-cost unit for service and electrical lines.

An ideal unit for cities, contractors, utilities, gas companies, custom operators, etc. Mail coupon for colorful new literature and low price.

Please send complete information on the new Vermeer Model W-1 Pow-R Ditcher.

NAME_____

COMPANY_____

ADDRESS_____

CITY_____ STATE_____

VERMEER
POW-R-LINE
PELLA, IOWA

VERMEER MFG. CO.
1461 W. Washington Pella, Iowa

DINER
He may get your message in newspapers
...but your ads in the Yellow Pages
sell him when he's ready to buy!
Make prospects remember your product when they're ready to buy — by reaching them with your selling message in the Yellow Pages. This will reinforce the points your other advertising has made . . . and help direct customers to your point of sale.
Now you can choose any combination of over 4000 Yellow Pages directories to cover your precise market — all with one contact, one contract, one monthly bill. Remember, your National Yellow Pages Service representative is at your service with complete details. Call him at your Bell Telephone Business Office soon.
"Let your fingers do the walking — shop the Yellow Pages way!" That's the penetrating, new, multimedia campaign that's building Yellow Pages usage all over America . . . building business for Yellow Pages advertisers, too. Still another reason for planning your program now!
NATIONAL YELLOW PAGES SERVICE

This is a typical ad that is supporting National Yellow Pages Service in business and advertising publications.

7,000 Advertisers Using National Yellow Pages

Some 1,000 advertising and advertising agency executives were given a two year progress report on Apr. 24 and 25 on National Yellow Pages Service (NYPS) at receptions and luncheons in the Sherman House, Chicago.

Presented by The Reuben H. Donnelley Corp. as a dramatic sketch called "The Gold Link," the show revealed that National Yellow Pages Service currently has over 7,000 advertisers with national or regional coverage, that space advertising and listings have increased more than 40 per cent since the service was introduced in 1960, and that national circulation of Yellow Pages has increased over 40 per cent in five years.

The presentation was produced by the Bell System and after playing in Chicago, its schedule calls for its appearance in 13 other cities.

"The Gold Link" details the experiences of a young advertising manager who overlooks an important link in his proposed advertising program. This link, the final one in the buying chain, is described by a comely girl space buyer as "the one that brings in the gold." Hence, the title of the sketch.

Lewis W. Reich, vice president and general manager of The Reuben H. Donnelley Corp., and host for the Chicago presentations, said that a 30-minute film version of the show would be available shortly for showing to advertisers and their agencies. The live show will be performed before some 5,000 key advertising executives during its nine-week run, he noted.

As the plot of "The Gold Link" develops, the actors show how National Yellow Pages Service is emerging as a key part of national marketing. Billing last year amounted to nearly 40 million dollars. Of this figure, 85 per

cent was billed through advertising agencies. This amounted to over 5 million dollars in agency commissions.

Despite the national circulation increase of 40 per cent, average cost per thousand has not increased since 1955. Total guaranteed circulation is now up from 50 million to 70 million, the sketch disclosed.

Mr. Reich told the audience: "We're delighted to be able to report such success for this new advertising service." He attributed the enthusiastic response to the service's flexibility and ease of purchase. "Advertisers can now easily buy the final link that completes the sales their other ads have started," he said. "And they can have it in any combination up to 4,000 local markets."

The National Yellow Pages Service is also being supported by a heavy advertising schedule in business and advertising publications. Two color, full-page ads are running monthly in *Advertising Age, Business Week, Dun's Review & Modern Industry, Industrial Marketing, Media-Scope, Nation's Business, Printers' Ink, Sales Management and Harvard Business Review.*

Also announced was a national advertising and sales budget of 8 million dollars for 1962 to promote usage of the Yellow Pages.

BUCKEYES TAKE FORWARD LOOK

Continued from page 38

on "The Backward Look" at the annual awards luncheon. Mr. Fowler offered his audience humorous experiences and stories of mountain life in eastern Tennessee. In a serious moment, he stressed the importance of retaining from the past those qualities and virtues that make it possible for us to enjoy the present and which should be the basis of the American way of life in the future.

Four Workshops Held

Four workshops, covering the fields of Accounting, Commercial—Public Relations, Plant—Equipment and Traffic, were conducted concurrently during the last afternoon session. In each session, delegates submitted questions for discussion after the formal presentations. Participants on the four panels and their topics were:

Accounting. Harold Cain of Western Reserve Telephone Co., Hudson, presiding; John D. Russell of American Appraisal Co., Milwaukee, Wis.; "Continuing Property Records"; and Miss Frances McGovern, chairman, Ohio Public Utilities Commission, "Rate of Return".

Commercial-Public Relations. Joseph Yaeger of Telephone Services, Inc., Lima, presiding; William Oertel of Ohio Newspaper Association, Columbus, "Care and Feeding of Newspaper Editors"; Mrs. Flora Burch of Western Reserve Telephone Co., Hudson, "Urban Service Development"; and Ross Herrick of Lorain Telephone Co., "Selling Mobile Telephone, Data, and Radio-Type Services".

Plant-Equipment. Joseph C. Sharp of General Telephone Co. of Ohio, Marion, presiding; Andrew C. Carbery of General Telephone Co., of Ohio, "Telephone Merchandising Tips for Plant People". A panel discussion of "DDD Transmission and Its Impact on Plant Personnel" was presented by Richard H. Aue of the Ohio Bell Telephone Co., Columbus, as moderator; G. B. Wright of Western Reserve Telephone Co; Arthur R. Huggler of General Telephone Co. of Ohio; and Russell Johnson of Warren Telephone Co.

Traffic. Mrs. Estelle Braden of Northern Ohio Telephone Co., Medina, presiding; Harrod Bolds of General Telephone Co. of Ohio, "Effective Traffic

SAVE UP TO 60¢ OF EACH BURIED PLANT DOLLAR!

■ With the new Kelley Cable Layer, up to five miles of cable can be buried every hour. Cable up to 3⅛" O.D. can be laid at uniform depths to 72", even in tough, rocky soil. Savings of 50 to 60% have been reported as one or two man crews replace five to eight man crews. Kelley Cable Layers are available for all models of Caterpillar track-type Tractors, providing a multi-purpose tool that can stay at work the year around.

Your Caterpillar-Kelley Dealer has facts and figures on burying cable with the Kelley Cable Layer. Call on him or write direct.

This Cat D4 Tractor with Kelley CL4 Cable Layer, assisted by a Traxcavator, put down three miles of 1¼" cable each hour.

Kelley Cable Layer

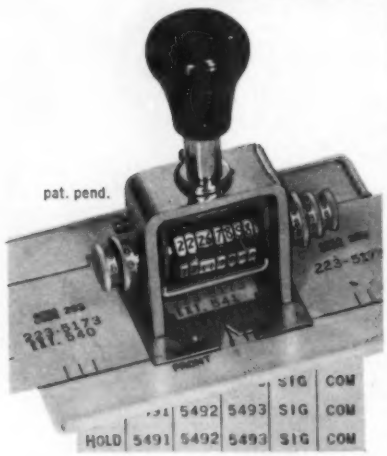
CRC

A division of Crutcher, Rolfs, Cummings, Inc.
P.O. Box 2073, Houston 1, Texas

Your Caterpillar Dealer is Your Kelley Dealer

6576

HOMS TELEPHONE COMPANY PRINTING KIT



7 wheels PRINT up to 7 numbers

123-4567

and these phrases:

EXT. 7890

HOLD SIG COM

actual size and type face

...on these telephone company cards and forms

All Station Number Cards including ANC cards

Designation Cards (Button Set Strips)

Service Order Forms

Index Cards

Switchboard Strips, etc.

The Homs Telephone Company Printing Kit, packed in high-impact polystyrene case with unique guide lid for station card printing, is so compact that installers carry it in their tool kits and print any card right on the job. Eliminates service center dependence and gives faster, lower-cost customer service. Over 10,000 kits now in use!

Write for further details or

ORDER TODAY! Only **$19.50**

Plus 10% Federal Excise Tax

Douglas Homs Company, Dept. TC
1314 Rollins Road, Burlingame, California
Area Code 415 342-5551

Management"; Miss Jayne Schlechter and Miss Sandra Humphrey of Northern Ohio Telephone Co., Oberlin, skit on "Yesterday and Today in Traffic Operating Practices"; Miss M. E. Nixon of Ohio Bell Telephone Co., Cleveland, and Mrs. Ann Harrison of Ohio Bell Telephone Co., Columbus, play role act on "Miss Jones Wants To Be a Telephone Operator".

Quatman Named President

The convention re-elected these five directors: Weldon W. Case of Elyria, H. F. Clapper of Greenville, R. P. Kaufman of Continental, George B. Quatman of Lima, and Walter Wellman of Leipsic.

Robert McKell of Chillicothe was elected a director to succeed the late David McKell, and Russell McConnell of Dorset was elected to the board to fill the unexpired term of Howard M. Wright of Ashtabula, who resigned.

Other directors are: C. C. Bloom of Sycamore, J. C. Hageman of Lorain, W. C. Henry of Bellevue, J. I. Hunt of Middlefield, R. F. Mateer of Warren, R. J. Maxwell of Mansfield, R. R. Waltz of Delta, and C. E. Williams of Marion.

Officers elected by the directors are: President, Mr. Quatman; vice president, Mr. Clapper, and executive vice president and secretary-treasurer, Daniel W. DeHayes of Columbus.

Kazup, Appenzeller Promoted At L. M. Berry & Company

L. M. Berry and Co. has announced the promotion of two members of its

E. A. KAZUP

Ohio division supervisory staff. E. A. Kazup and O. B. Appenzeller have assumed positions as district sales managers in the Ohio division. Mr. Kazup will be responsible for sales activities in the eastern portion of the state and Mr. Appenzeller will handle similar activities in western Ohio.

O. B. APPENZELLER

Mr. Kazup joined L. M. Berry and Co. as an Ohio division salesman in August, 1954. He was promoted to the division supervisory staff in January, 1957, and served as a member of this staff until his recent appointment.

Mr. Appenzeller joined the firm in April, 1959, as a salesman in the Ohio division, then received an appointment to the division supervisory staff in March, 1961, and served in that capacity until his recent promotion.

Hammond Appointed Okonite Philadelphia Manager

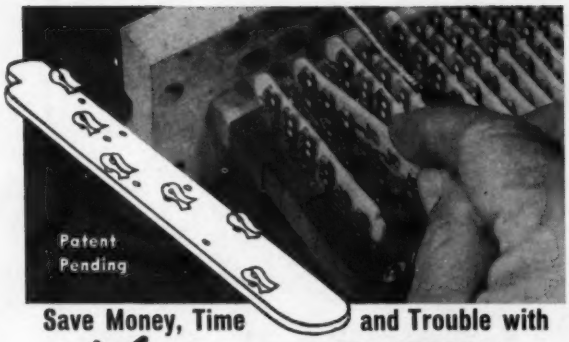
Appointment of Walter W. Hammond as district manager of the Philadelphia sales office of The Okonite Co., wire and cable manufacturing subsidiary of Kennecott Copper Corp., has been announced by J. G. Wicks, eastern regional manager.

A graduate of North Carolina State College with a B.S. degree in electrical engineering, Mr. Hammond has been associated with Okonite since 1941. He served the North and South Carolina area prior to assignment to the Philadelphia district office in 1955, where he has been a specialist in utility sales.

Mr. Hammond is a member of the American Institute of Electrical Engineers and is a registered professional engineer in both North and South Carolina.

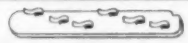
Kwik-Mix Distributor

George M. Philpott Co., Inc. of South San Francisco, Cal., has been appointed a distributor for the northern half of the state of California by the Kwik-Mix Co. of Port Washington, Wis. Kwik-Mix is a division of Koehring Co. of Milwaukee, Wis.



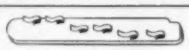
Save Money, Time and Trouble with

Monarch INTERCEPT CONNECTORS



S to S1 - R to R1 - T to T1
(Straight)
"YELLOW"
Part No. SY-100

S to S1 - R to T1 - T to R1
(Machine)
"RED"
Part No. SR-200



Part No. SG-300

Strapping		
Rear	Center	Front
C-C1	T-T1	R-R1

NEW "GREEN" MONARCH INTERCEPTOR CONNECTOR
Especially designed for Automatic Electric Main Frames

MATERIALS: PLASTIC – Hi Impact Thermo Plastic
SPRING – Stainless Steel, Type 302.

PACKAGING: PACKED – 80 per box, 1040 per carton.

GUARANTEE: GUARANTEED to operate satisfactorily

TESTS: Each Intercept Connector – Individually tested for continuity

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3

FREQUENCY SELECTIVE VOLTMETERS

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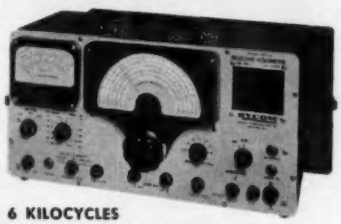
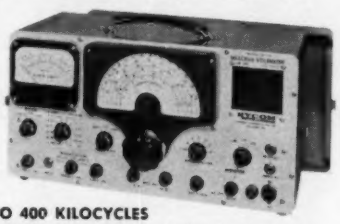


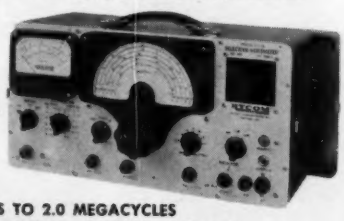
50 CYCLES TO 6 KILOCYCLES
Measuring: —68 dbm to +32 dbm full scale
Selectivity: 30 or 50 cycles
Input: 135, 600 ohm bridging, balanced or unbalanced

MODEL 2174A



300 CYCLES TO 400 KILOCYCLES
Measuring: —68 dbm to +32 dbm full scale
Selectivity: *50 cycles, 100 cycles, 2800 cycles measuring and monitoring
Input: 135, 600 ohm bridging, balanced or unbalanced

MODEL 2173A



3 KILOCYCLES TO 2.0 MEGACYCLES
Measuring: —68 dbm to +32 dbm full scale
Selectivity: Measuring 250 cycles, 2800 cycles
Input: Unbalanced bridging

*Models 2174A and 2173A are supplied with a reinsertion carrier for single side band demodulation. All units have internal calibration signal. *Model 2174A: 50 cycle filter supplied at slight increase in price.*

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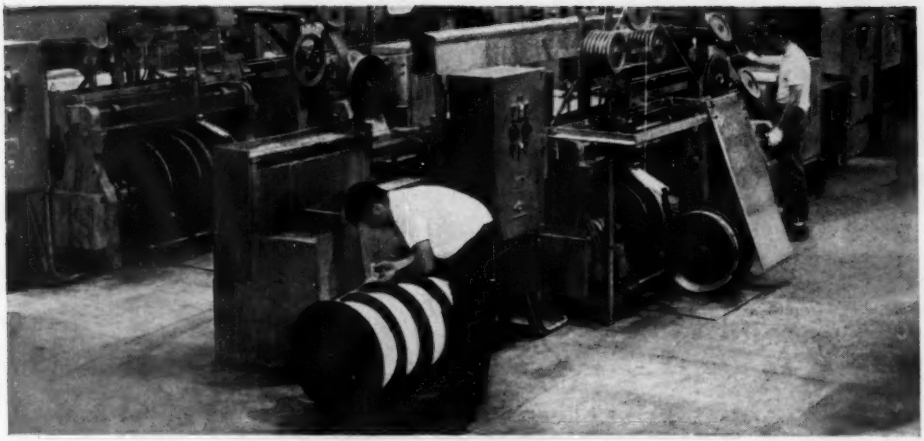
Product Dependability... how it is fabricated into Phelps Dodge telephone wire & cable

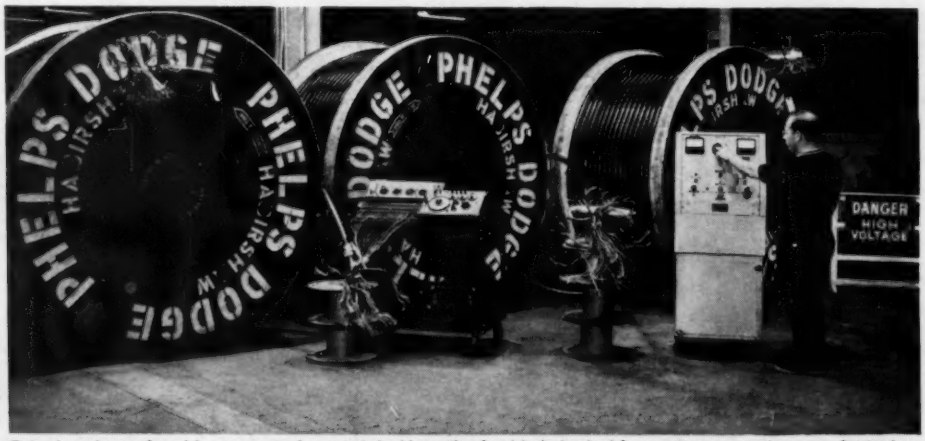
To assure complete in-service reliability, close control of quality is a necessity throughout the manufacture of telephone wire and cable. At Phelps Dodge, modern production machinery and equipment with automatic control devices are used to guarantee rigid quality standards. Additional checks made by teams of technicians include a final inspection of each wire and cable before shipment to its destination. This emphasis on quality control throughout fabrication provides important customer advantages—reduced maintenance costs and prolonged service life.

High speed stranding machines automatically control correct placement of varied lay pairs assuring maximum capacitance uniformity, a Phelps Dodge requirement.



Low loss polyethylene insulation is applied to individual conductors by a battery of modern extruders. Continuous diameter-gauge controllers are used to maintain maximum uniformity of insulation thickness.

In this cabling operation, fully color-coded basic units are channeled to predesignated locations, then spun into multi-unit cables.



Prior to release for shipment, each completed length of cable is tested for conformance to manufacturing control procedure and rigid Phelps Dodge quality standards.

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AE Sales Announces 5 Changes At District Manager Level

Automatic Electric Sales Corp. of Northlake, Ill., has announced five changes on the district manager level,

WAYNE LEONARD

resulting from the recent merger of Leich Sales into AE Sales.

In the Communications Products Division, Wayne Leonard moves from the north central district in Minneapolis, Minn., to take charge of the central district, headquartered at Northlake; Richard D. Friehe succeeds Mr. Leonard; John Gunther will be in charge of the newly-established northeastern district in Albany, N. Y.; and Robert M. Sanders moves to the western district at Burlingame, Cal., (San Francisco area), succeeding Keith A. Regel who became vice president in charge of marketing services.

R. D. FRIEHE

In the Industrial Products Division, George W. Downs will be in charge of the eastern district, headquartered in New York. He succeeds T. E. Smith

JOHN GUNTHER

who has been elected vice president of the division.

Mr. Friehe has been a district manager of various Leich Sales territories since 1953. Mr. Sanders started his career with Leich Sales as a district manager in 1954. Mr. Downs has served the eastern district as a salesman for AE since 1945, when he joined the company.

D. W. Buehrer continues in charge of the central district, with headquarters at Northlake, and M. L. Markey continues in the western district at Los Angeles for the Industrial Products Division.

R. M. SANDERS

Arnold Pearson remains as manager of the southeastern district office in Atlanta, and George Summerscales Jr., stays with the south central district in Kansas City, Mo., for the Communications Products Division.

G. W. DOWNS

Bucksot Purchasing Agent For All Suttle Divisions

The appointment of William Bucksot as purchasing agent for all Suttle divisions has been announced by C. L Lineberger, executive vice president.

Mr. Bucksot was graduated from Indiana University School of Business in 1946.

An army veteran of World War II, he saw service in Africa, India, Iran,

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France and Germany in the U. S. Army Corps of Engineers.

His background includes 15 years in the purchasing field, with such companies as American Steel Foundries, Hammond Valve, and others.

WILLIAM BUCKSOT

He is currently chairman of the Business Survey Committee of the Purchasing Agents Association of Chicago.

Harvey Glebe, Suttle's long-time purchasing agent and a graduate engineer from the University of Nebraska, has begun special assignments in Suttle's manufacturing division at the Lawrenceville, Ill. plant.

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NORTH ELECTRIC central office equipment man. Middle aged. Progressive pay increases. Full retirement paid. Write Public Service Telephone Co., Montrose, Mich.

ASSISTANT TO CHIEF ENGINEER. Qualified central office equipment telephone engineer with semi-conductor circuit design experience. Salary (plus fringe benefits) commensurate with qualifications. Send resume including earnings. Universal Controls Corp., Box 13122, Dallas 20, Tex.

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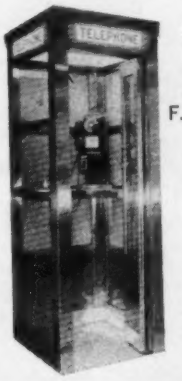

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